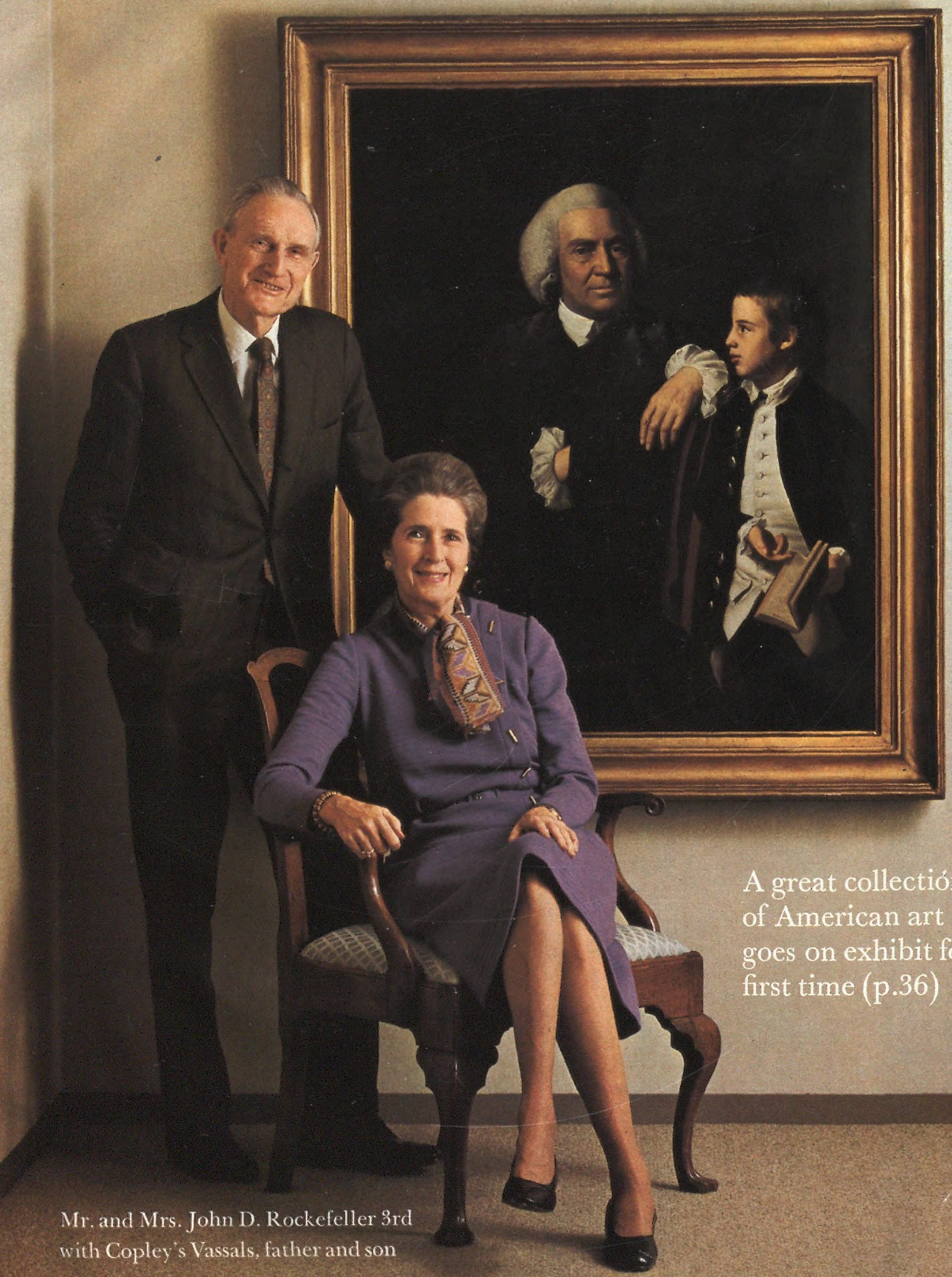
April 1976

Smithsonian



A great collection of American art goes on exhibit for first time (p.36)

Mr. and Mrs. John D. Rockefeller 3rd with Copley's Vassals, father and son

Parure. It is a word which is difficult to translate.
One could say "ornament" or "adornment" but one would be missing the point.

It is "ornament" only in the sense of a jeweled tiara from Tiffany's. It is "adornment", but in the sense of an aura, creating a presence which is *felt* more than seen.

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1976—Guerlain creates Parure.

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"In the presence of the Great White . . . time suspends itself."
Peter Benchley

Few moments rival the excitement of meeting a Great White Shark face to face. For Peter Benchley, author of *Jaws,* survival depends on experience and precision equipment. Peter wears the gold Rolex Submariner. This Oyster Perpetual, an officially certified superlative chronometer, is carved out of a solid block of 18 kt. gold (1680/9290) $3,825. Also available in stainless steel (1680/9315) $490. Write for free brochure, Rolex Watch U.S.A., Inc., Rolex Bldg., 665 Fifth Ave., N.Y., N.Y. 10022.

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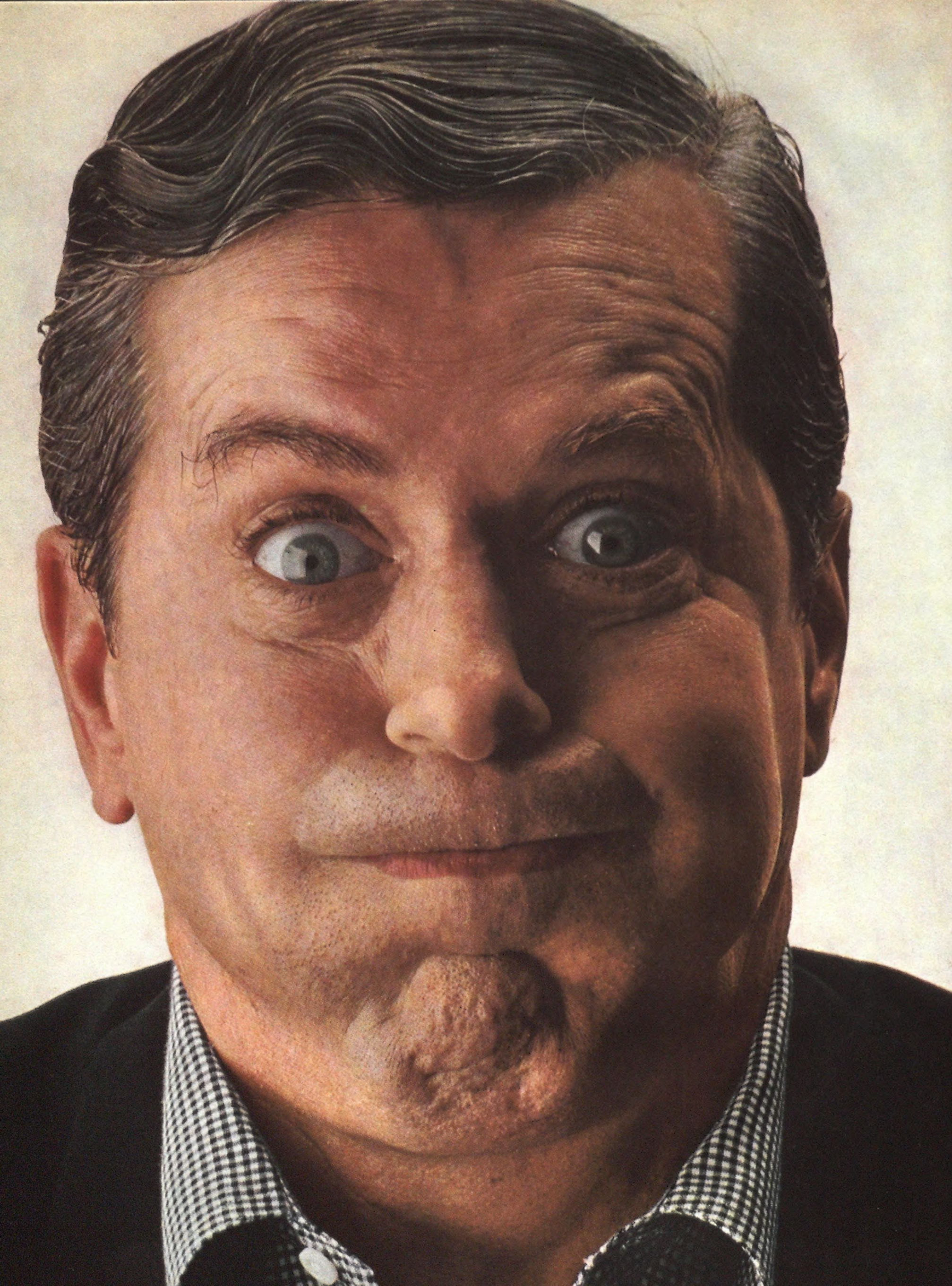

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That desperate, terrifying sensation is caused by a lack of oxygen and an excess of carbon dioxide.

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Secretary Ripley's comments

The view from the castle

After a delayed start, the Institution has at last fulfilled its charter to encompass achievements of U.S. art

When the Smithsonian Institution was founded 130 years ago, there was little recognized indigenous art in the United States except for the largely unappreciated arts of the Indians. As the hopes of the infant Institution were focused on the "increase & diffusion of knowledge," the *increase,* which implied an intellectual rallying point, turned naturally to science, a cultural activity of course, but one which was largely for applied purposes to help master the continent.

Art in its Western connotation in the New World was essentially either derivative or imported, with the exception perhaps of the folk arts and crafts.

The New York Armory Show of 1913 is usually considered the watershed of the arrival of modern art in this country, even though the works of the U.S. artists shown there came off badly. Sparked by a new enthusiasm, however, Arthur B. Davies in 1914 organized a traveling exhibit made up exclusively of the work of American artists, and it defined a new mode of American painting.

From these late beginnings, the recognition of American art as such proceeded slowly through the 1930s and into the postwar period. As William Woolfenden, director of the Archives of American Art, states: "At the time the Archives . . . was founded in Detroit in 1954 [by E. P. Richardson and Lawrence A. Fleischman], there was *no* institution for the study of the artists of this country, there was *no* full time professor of American art history, there were very few adequate studies of even our finest painters and even less attention paid to our sculptors and craftsmen."

As American art itself was slow to gain recognition (see p. 36), so too had our Institution lagged in the collection and exhibition of art, in spite of the requirement for an art gallery in its charter, (SMITHSONIAN, November 1970). It was not until 1906 that the art holdings were brought together as the then National Gallery of Art. Even so, the Smithsonian nevertheless continued to be dilatory in giving American—or indeed contemporary—art its full due.

While the Museum of Modern Art and the Whitney Museum were developing in New York City, the Institution failed to provide similar leadership in Washington. Through timidity and the influence of an overly academic Commission on Fine Arts, the prize-winning design of Eliel and Eero Saarinen for a contemporary art museum on the Mall was quietly shelved. Not until the 1960s, with the creation of new homes for the National Collection of Fine Arts, the National Portrait Gallery and the decorative arts, and the completion of the Hirshhorn Museum in 1974, did the Smithsonian recognize American art formally. Arrival of the Archives of American Art in 1969 symbolized the rounding out of the original purpose of the Institution.

The Archives exists to stimulate research in all areas of American art history. Original source material given by artists or their families, dealers, libraries, museums and historical societies, has expanded the collection to more than five million documents, and nearly 100,000 photographs, along with oral histories, so far numbering nearly 1,500 interviews. The Archives has collected a treasure trove—all of it recorded on microfilm—which is constantly being enlarged and made available through five branches around the nation. With a home here in Washington and a tiny sustaining budget, the Archives' principal funds still must be raised through subscription, memberships and tours. Surely the Archives deserves all the help of those museums in this country concerned with the growth of American art and culture.

American art today is preeminent in the world. The best of our artists preserve the tradition of the rigorous and idealistic search for truth and unity. Whether understood or not, there is a sense of spiritual dedication in the plastic arts as surely as in the poet's quest. Much of our life today is full of dross, our ideals tarnished with shabby and venal thoughts. For my part I am thankful that the Smithsonian has finally accepted a measure of its inherent responsibilities, and that in so doing we may advance the cause of art and support its new and somewhat fragile assurance.

S. Dillon Ripley

WHEN YOU SPEND $10,000 FOR A CAR, YOU SHOULDN'T BE AFRAID TO DRIVE IT.

Any man who has traveled the highway to success shouldn't feel he has to detour around potholes.

Yet it seems many big, expensive cars today are better prepared for country club driveways than city streets and back roads.

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National 4-H Forestry Award winners, front to rear: Jeffrey Little, John Pfleiderer, Melinda Hadden, Craig Jerabek, Steve Welches, and David Doherty, Jr.

How six 4-H members became the proud parents of over 60,000 baby trees

In the year 2000, Americans will use about twice as much paper and wood products as they use today. And the U.S. Forest Service predicts that America's commercial timberlands won't be able to keep up with the demand.

Our hope lies to a great extent in concerned *young* people—like these six teenagers who won the National 4-H Forestry Award and scholarship. These young people show just what can be accomplished. And that's why we're sponsoring the awards: to encourage people to start young—thinking about the future of America's forests and doing something about it.

Enough trees to keep a city going

Together, Craig Jerabek, David Doherty, and Jeffrey Little planted over 57,000 of the 60,000 seedlings—enough to keep a city of 16,000 people supplied in paper for an entire year when the trees are grown.

Melinda Hadden's specialty is *Christmas* trees—she's planted 1,200 of them. She's also planted about 300 trees for homeowners whose trees were destroyed by a violent windstorm.

John Pfleiderer has researched and fought Dutch elm disease—a killer which wiped out many of Greeley, Colorado's most beautiful trees. (John also taught himself grafting—and created new forms of trees.)

But there's more to a forest than just trees. Healthy forests are a complete ecosystem. That's why Steve Welches has planted over 1,200 shrubs for animal cover. And why David Doherty has built dens and brush piles for rabbits and small game birds. (And succeeded in bringing them back to land that was once ravaged by Hurricane Camille.)

Fortunately, these six teen-agers aren't alone in their commitment. There are 100,000 *more* 4-H members also working in forestry.

And forest companies pulling on the same team.

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We've developed a Supertree—a southern pine that grows taller, straighter, healthier, and faster than ordinary pines.

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If you'd like more information about what has to be done to assure the world's fiber supply, please write to Dept. 162-A, International Paper Company, 220 East 42nd Street, New York, New York 10017.

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Phenomena, comment and notes

An animal to be admired at a distance,
heat and light generated by nuclear power,
the new sound and a question of begging

Even though the economy may be on the way up, it seems worthwhile to devote considerable space to a report by three researchers at the University of Washington on an activity which one naturally hopes won't become necessary, but for which one might just as well be prepared—that is, panhandling. (It can happen to anyone: not long ago a Congressman from Michigan found himself without a cent in an airport and had to cadge money from one of his astonished constituents in order to call home and tell his wife when he would arrive in Washington.)

The point of the panhandling study, reported in *Science* (Volume 191, Number 4225), was to explore the behaviors, contexts and rules in the "sharing of resources" among people—a subject, the authors assert, that has been little studied among humans, though fairly well examined among our primate relatives. (Thus—and perhaps properly—do these researchers, psychologists by trade, dismiss the economists.)

In any event, college students, those most pliable of experimental animals, were dispatched into the streets with instructions to ask passersby for handouts. Some were well-dressed, some were shabby-looking. Some were submissive (shoulders slumped, eyes averted, right hand out); others were "dominant" (head erect, lots of eye contact). Here are the results:

Male panhandlers. The submissive posture and the begging hand are essential. Approach females, especially single ones, and especially when they are eating.

Female panhandlers. These are in general more effective than male ones. Approach single men submissively for the best results. Next best is to approach—*in a dominant posture*—single females or single men who are not eating.

Targets in general. It is advisable to seek an eating target. Single targets are best, pairs of females next. Male-female pairs and families are hardly worth the effort.

Timing. The researchers found that spring is a better

THE BENCHMARK GUILD

July 4, 1776

Thirteen Colonies — united in seeking freedom and justice — fifty-six patriots each determined that a new nation would that day be conceived — to be thereafter free to chart its own destiny.

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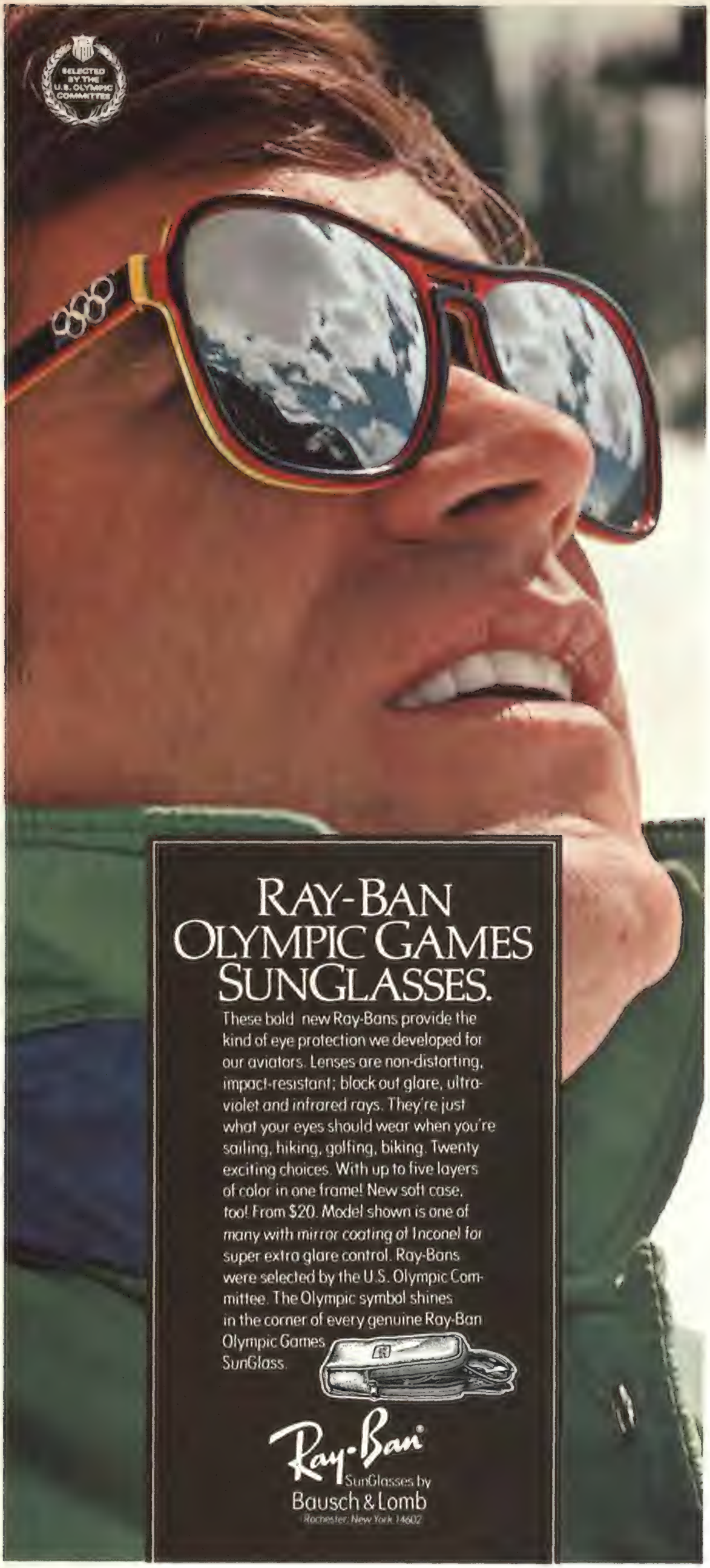
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time for panhandling than is the autumn.

So set forth now, using the above instructions. "As with chimpanzees," the scientists write, "knowing the rules and displaying the appropriate behavior in the proper context should be adaptive."

Is coffee hazardous?

The dime one panhandles is presumably for a cup of coffee (though the student cadgers were instructed not to say why they wanted the dime, and inflation calls into question just where one would go today for a ten-cent cup of coffee). And if one needs to panhandle, one is probably beyond worrying about coffee's potentially hazardous effects. But *Medical World News* (Vol. 17, Number 2)—which is apparently doing fine—has reviewed the medical effects of coffee.

Coffee is the most used beverage in the world and the most popular mind-affecting drug in the United States along with tobacco and alcohol. The caffeine in it is known to "produce a more rapid and clearer flow of thought . . . and a more perfect association of ideas." Typists work faster after a cup of coffee. With such benefits flowing from the coffee bean, it would have to be shown that coffee was awfully dangerous before most people would entertain the idea of giving it up.

There is some indication that coffee drinking predisposes one to peptic ulcers. One study says college-age coffee drinkers have 1.4 times the risk of developing ulcers later in life than abstainers.

One study showed that coffee increased the risk of bladder cancer, particularly among women, but subsequent investigations find no conclusive connection. It's the same with heart disease—the evidence points both ways—and the obvious recommendation is moderation.

Birth defects occur in mice if the pregnant mother is injected with a dose equivalent to a woman taking 50 to 100 cups of coffee all at once (one wonders what substance wouldn't be lethal at that level of intake), but normally the risks "if any, are exceedingly small."

On the whole, the evidence so far suggests that coffee is one of our lowest-risk sins. Nevertheless it may one day be proved dangerous. One hopes not. As Dr. Hans L. Falk of the National Institute of Environmental Health Sciences says: "We have lost our cigarettes, our pipes, our cigars. . . . And it may be that even

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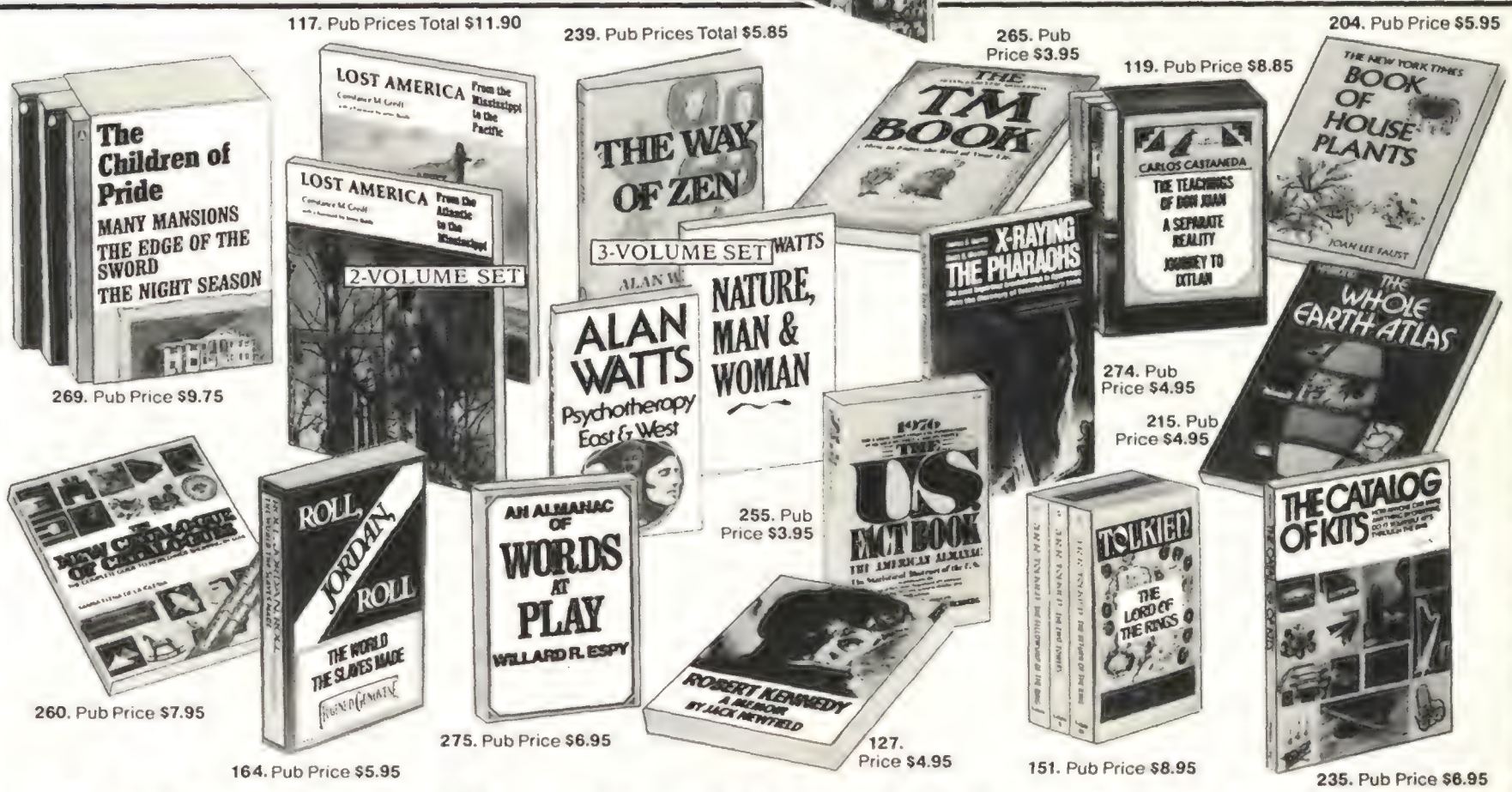

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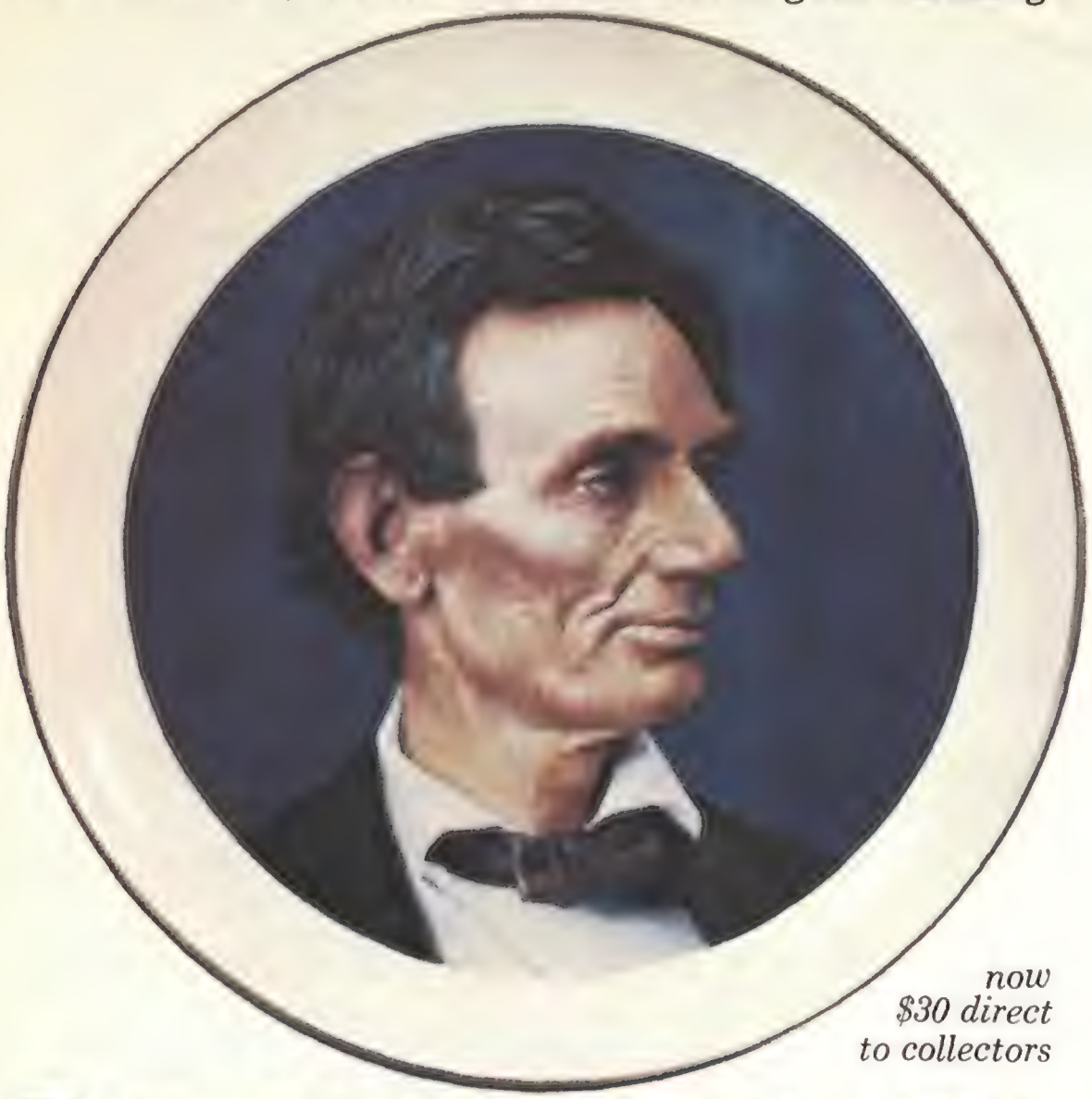

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business find current systems appallingly short of the mark of creating the illusion of reality because, among other things, even with the best system, you cannot produce height information. This means that you cannot get the illusion in your mind that the kettledrum is located higher on the stage than the harp, and this apparently destroys the entire effect for the true aficionado.

So, according to *New Scientist* (Volume 69, Number 985), British acousticians have dreamed up a system of recording which uses up to 12 "capsules" of four tetrahedrally arranged microphones and requires four, and preferably five, speakers.

It all sounds wonderful, they say, being thus surrounded with music, but as a practical matter its limitations are obvious. It will appeal to teen-age rock fans who always want to experience all of the dimensions of their music at a decibel level so great that they already have eardrum damage. Ambisonic subtlety will therefore be lost on its prime market.

Armadillos to the rescue

Except for some counterculture college students in Texas for whom it is a mascot, the nine-banded armadillo is an animal that makes its way through life with a minimum of human interest or celebration. Good reason, too. It eats insects and dirt, it is one of the most primitive mammals alive, along with sloths and anteaters, and, according to *Science News* (Volume 109, Number 6), it is an alien to this country, having slipped across the Mexican border into the American South in the manner of migrant workers. Not only that, but it has an inefficient internal heat regulator.

And if all that is not enough to doom this armor-plated creature to contempt, it is known to catch leprosy. Researchers in Louisiana had previously infected the armadillo with the organism, *Mycobacterium leprae*, that causes leprosy, knowing that the bacterium likes lower temperatures and that the armadillo creeps around at about 90 degrees, being inefficient in heat regulation. Now they have found wild armadillos with leprosy.

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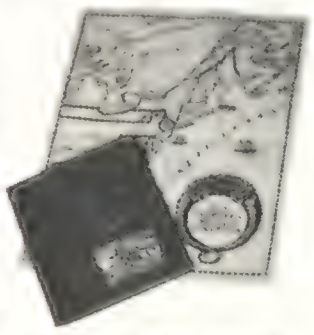

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then perhaps the counterculture is right to take the armadillo to its bosom—figuratively speaking, of course.

Heat and light

The scientific news is throbbing with nuclear discussion, set off by the much-publicized resignation of three industry executives and one member of the government's regulatory agency last winter. The controversy, which has been simmering for nearly a generation, is now becoming part of the media hype that serves, at least initially, to make it all a bit confusing to the average citizen.

The *Atomic Industrial Forum* (Number 63) has leapt into the fray by quoting reports that the three industry defectors are in fact members of a quasi-religious organization called the Creative Initiative Foundation—a cult, it is said, much involved with getting the recent California initiative for safeguards in nuclear power plants started. The three executives, says the *Forum*, are "most troubled by philosophical and emotional issues—well beyond their own special technical expertise—which have been considered carefully and answered to the satisfaction of thousands of their colleagues." The implication of this statement is that these three, among the thousands, are ill-equipped technically to deal with philosophical and emotional questions, while their colleagues somehow are.

Meanwhile, *Science & Government Report* (Volume VI, Number 2) says that the latest figures from the Energy Research and Development Administration show the nuclear industry "is still in an economic depression." Orders for 12 new reactors have been canceled and construction delayed on another 72. High capital costs are cited, in spite of the fact that the *Atomic Industrial Forum* says a nuclear plant and a coal plant cost just about the same to build. It is all terribly confusing.

For now, the nuclear industry can take some comfort in the fact that a recent poll in France reveals that 55 percent of that population favors nuclear plants while 33 percent are opposed. (France plans to have 72 percent of its electricity generated by nuclear power by 1985.) Can 55 percent of that many millions of Frenchmen—who gave the world the Maginot Line, the Popular Front and the Concorde—be wrong?

JAMES K. PAGE jr.

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Letters to the Editor

Ginseng

Dear Sir: In regard to your article in the February issue on ginseng, we thought you would be interested in some findings by Dr. Sungman Cha, a professor of biomedical sciences at Brown University. He finds that his recent laboratory tests indicate ginseng may be an effective cancer-fighting agent, although he cautions that only one of every 1,000 such potential drugs will ultimately prove of use to modern medicine.

Like other laboratory discoveries, this one developed by chance. Dr. Woo Ik Hwang, who is now an associate professor of biochemistry at Korea University, worked with Dr. Cha at Brown for three years. Dr. Hwang's special interest was nucleotide metabolism in mouse leukemia cells. One day, Dr. Cha recalls, Dr. Hwang, for no good reason, threw some ginseng extract into the culture medium containing the cancer cells. To the researchers' surprise, it killed all the cells.

At first they didn't believe any special chemical did the killing because they knew that ginseng contains a large amount of glycosides and thought these were dissolving the cells by physical means. The two researchers wanted to be certain and pursued the matter further.

Dr. Cha says, "We finally determined the cancer cells were not killed by the glycosides but rather by one of the panaxinols, a group of compounds found in ginseng. We don't know which of the panaxinols is responsible, but I do know it has a very potent effect on cancer cells grown in test tubes."

Dr. Cha says he still does not know how panaxinols will affect cells in living animals—an investigation to be completed in the future.

Dr. Cha observes that ginseng is credited with a number of medicinal properties. The plant, it is said, protects body cells as well as the whole body from mental and physical stress, stimulates in small doses and depresses in large doses, increases mental efficiency, prolongs survival under adverse conditions, postpones fatigue and increases working capabilities, lowers elevated blood sugar and cholesterol, promotes iron metabolism and helps the GI tract.

Moreover, ginseng doesn't seem to have any adverse effects on human beings, Dr. Cha says.

Curt Norris
Science medical writer
Brown University
Providence, Rhode Island

Space colonies

Dear Sir: Any serious student of history is generally reluctant to pooh-pooh innovative ideas, realizing that the wildest schemes of yesterday often become the commonplace of today. There are, however, a couple of unanswered questions raised by Author Ron Chernow's article and Gerard K. O'Neill's theories on space colonies. Professor O'Neill apparently feels that space colonization may be the answer, or at least a partial answer, to the problem of overpopulation. Considering that the world population grows at the rate of some 250,000 per day, it hardly seems likely, given current power sources and declining resources, that sufficient launches could be attained to dent this figure. Even if one were to assume a vehicle capable of lifting 100 persons, it would still take more than 2,000 launches per day to keep the population stable.

Charles L. Witt
Winchester, Kentucky

Dear Sir: Professor O'Neill's optimistic approach to overpopulation is refreshing. I would question, however, his projected population of 10,000 in a cylinder with a surface of 155 acres. The resulting population density would be 41,220 people per square mile. This may be equivalent to "a Manhattan block of old browstones," but it looks as though Central Park has been ignored. The most populous area on Earth is cited as being Macao with a density of some 45,000 people per square

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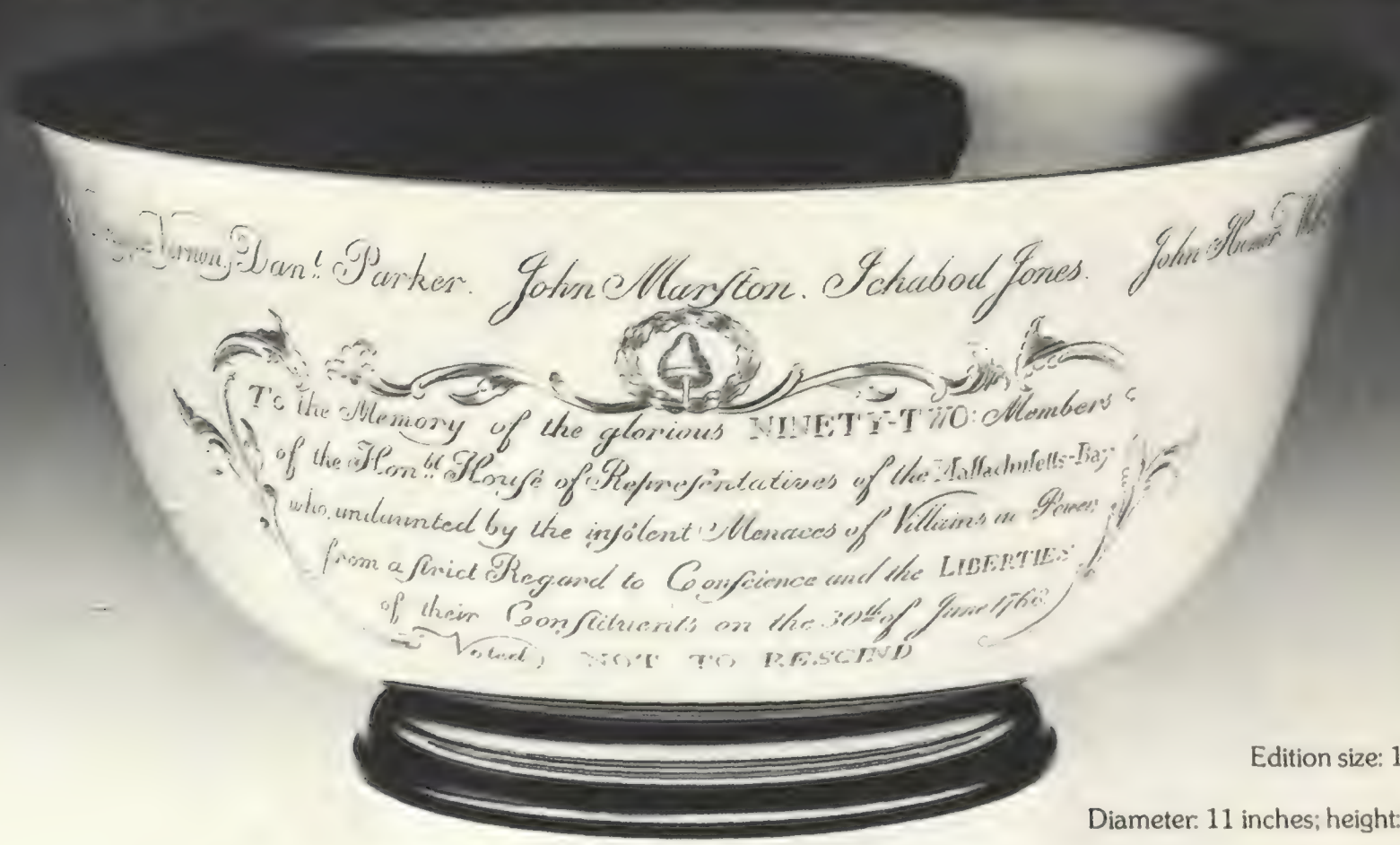
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mile. Even Singapore seems desolate in comparison to this.
David B. Chittim
Dover-Foxcroft, Maine

Dear Sir: I don't know why Professor O'Neill thinks that his "small, intimate, and altogether charming town" wouldn't have its other-side-of-the-tracks section, or that human beings who use L_5 as a profitable business venture would trouble themselves to create a Utopia. Since urban sprawl and slums have been part of this planet's industrialization, I believe the same will occur many times again in space. Human beings should stay on Earth until they've learned to get along with each other here.
Patricia R. Miller
Aptos, California

Dear Sir: Your article is titled "Colonies in space may turn out to be nice places to live," but I don't believe they will be the fanciful cylinders you illustrated.

In a telephone conversation last summer with O'Neill's then research assistant Eric Hannah, he confirmed that the professor in his first article in September 1974 had overlooked one technical error and a more subtle one was not thought of. The basic technical error with the cylinders is that the mirrors, described as giant aluminum panels hinged to the outside (which are shown in one of your illustrations) would fly out, like the arms of an airplane ride in a carnival, when the cylinder rotates.

A less obvious problem is the fact that the atmosphere inside the cylinder would not tend to rotate very beautifully as a synchronous mass with the cylinder, and there would be continuous gale-force winds. The graceful clouds depicted in one of your illustrations are not, unfortunately, realistic.

The torus, which you illustrated on p. 68, will not have quite the delightful atmosphere of the cylinder, and the fanciful swimming pool at one-tenth gravity might as well be abandoned. Even if there is a technical solution, we start to lose some of the beautiful poetic concepts.

However, the concept of something out there in space to gather solar energy and beam it back to the Earth to help solve our forthcoming harrowing energy problems is laudable. Let's not make the tempting error of trying to push too many technical frontiers forward at one time.

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Manned colonies in space seem to be very far off, and themselves will probably be dependent on our having abundant sources of energy for space propulsion.
Victor Wouk
New York City

The space colony appears to be technically feasible. Dr. O'Neill is the first to admit that his plans, numbers and timetable still present a rough scenario that is being constantly refined. It is possible, for example, that a sphere, rather than a torus (ring) or cylinder might be a better shape for a colony. It is understood that the first colony would have to be Spartan, requiring pioneer spirit to endure hardships, while building toward the more luxurious colonies pictured. Ed.

Dear Sir: It occurred to me that some of your readers might be interested in learning of an organization that supports the work of Dr. O'Neill and space colonization in general. This group is the L_5 Society, a nonprofit organization based in the Tucson area. Anyone interested may write to: The L_5 Society, 1620 North Park Avenue, Tucson, Arizona 85719.
Shirley Ann Varughese
Tucson, Arizona

Dear Sir: I must admit to being intrigued by Professor O'Neill's space-colony proposals and, as the late John F. Kennedy urged, "Let us begin." However, as a physicist, I'm sure Dr. O'Neill would agree that the first problem in getting such plans into motion is to overcome inertia, and if a nonscientist may presume to offer a formula, mine would be this: $I = WF$, with W equal to the weight of government bureaucracies and F equal to the fears and prejudices accumulated during the past 50,000 years.
Robert A. McEwen
Maumee, Ohio

Supergull

Dear Sir: We were delighted to see the article on our friend Charlie, the supergull, written by Marshall Smith.

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Shirley M. Dawson
Key Biscayne, Florida

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SH-04

Phenomena, comment and notes

Dear Sir: David Logan's comment under the item "Neuterizing speech" has led me to speculate as to what must happen to the command: "Man the lifeboats." It seems lacking in punch to say "Person the lifeboats," while "Woman and/or man the lifeboats" would seem a bit awkward. Since the Navy is co-ed, this question is not idle.

I can, I suppose, find some comfort in the fact that I no longer must fear the thought that I might at some time in the future hear that exhortation, "Women and children first."

Since equality and law take precedence over chauvinist chivalry, I suppose it is "Every person for itself."

George A. Hall jr.
Rollingbay, Washington

Dear Sir: In your item on medical malpractice, it is described as a "pesky problem." Let me assure you that this problem, which the survey you cite tends to minimize, has become a full-blown crisis.

A study published this year by the Illinois State Medical Society has some very different statistics. In Cook County in 1969, one in 23 physicians was sued; in 1974, one in six. The number of million-dollar suits has increased remarkably. The increase in premiums this has caused is common knowledge and well publicized by the recent California "strike." Only two groups of people stand to profit from this situation: the occasional patient who is the beneficiary of a large settlement and the attorney who benefits from the large contingency fee. The losers are the vast majority of patients who must ultimately pay the bill for increased premiums to hospitals, physicians and the kind of "defensive" medicine necessary to protect physicians against litigation.

J.R. Shackelford, M.D.
Paris, Illinois

Scorpions

Dear Sir: The fact that the friends of H. Allen Smith ("There's no hotfoot like a scorpion bite") didn't tell him to shake those shoes before putting them on during the night makes *me* "judder!" As a former Texan, I learned the lesson the hard way.

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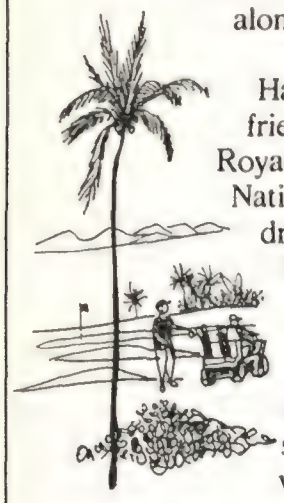

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Around the Mall and beyond

As this Bicentennial year progresses toward the Big Birthday in July, Washington's Mall murmurs with various sounds. There are a few signs of self-satisfaction, a certain number of rolling periods of patriotic rhetoric and a great many despairing groans of conscience-stricken men and women and overburdened machines as they all struggle together to meet that inexorable deadline. Will even the first leg of Washington's splendid new subway system be finished? Groan. Will garden areas, pools, vistas, walks and refurbishings be ready for millions of Bicentennial tourists to stroll through? Groan.

We earnestly promised that so much would be completed by July 4. And all too often we felt that the promise was enough, that the dawning of Independence Day 1976 would find our nation's capital transformed into a gleaming new city, beautiful, efficient, livable, debt-free, all accomplished on the stroke of midnight by the wave of a wand.

Oh, well. The effort itself has been good for us all. Those projects that don't make it on time will presumably make it late. In the long run, will it matter?

We at the Smithsonian may be acting a little smug about Bicentennial deadlines and how to meet them, because we have one program that not only stands up very well as a birthday celebration, but completely ducks the issue of whether or not it will be on time. It is called "Kin and Communities: The Peopling of America." It is to be carried out by anyone who wishes to do it. Anyone. You don't have to register for it, or pay an entrance fee, or take a final exam, or write an essay. You can do it whenever you want—or not at all. It's a Bicentennial exercise, and the only reason for taking part is that participants will learn a great deal about themselves and their country, and the learning will be as entertaining as it is enriching.

"Kin and Communities" is a study of American families, carried out by themselves. The idea is to dig into your own family history, tracing your ancestry back as far as you can, and so provide for your own benefit a revealing picture of how your nation was settled and what fabrics went into its structure.

Though there's no deadline for this program, workshops and lectures will be held in mid-June to spur flagging enthusiasm and demonstrate the way to discover your own family background. Margaret Mead, the famed anthropologist, will be running things.

We think of genealogy as being a musty study with which "first families" fight off ennui by tracing their family trees back to William the Conqueror. "Kin and Communities" is for all families who make up our nation: the blacks whose forebears came in chains from the Gulf of Guinea, the Irish who came to escape the potato famine, the Jews who came to avoid pogroms, the Slavs and Balts and Latins who swarmed through Ellis Island at the turn of the century, the South Vietnamese who debarked from the air transports a year ago and the northern Cheyennes who crossed the Aleutian land bridge thousands of years ago. Whatever any of these —and all the others—can learn of their American experience enriches them and also the nation.

Allan J. Lichtman, a historian at American University and the consultant for "Kin and Communities," says that anyone can be a personal family historian,

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asking the same questions of his family as professional historians ask of family groups. The personal historian, then, can dig just as deep as the professional can, and the information he unearths may pan out to be gold in the latter's eyes.

First, says Lichtman, you should construct your family tree, reporting the basic facts about family members—the dates and places of their births and deaths, their various homes, their occupations, education, religious leanings. Then pry into the households—how the kids were reared, how time was spent, how decisions were made and money used and, if you can ask without making Granny clam up, what about sex attitudes.

"If," says Dr. Lichtman, "your grandmother emigrated from Russia 50 years ago, how did she feel about the home country before she left? After she had spent some time in America? Did her attitudes toward the old country change substantially over time? Which customs of the new country did she accept?"

In his advice to amateur family historians, Dr. Lichtman suggests careful planning, even a bit of education in the art of getting at oral history, which, he says, can produce four or five generations of family history.

"The reconstruction of your own family history can be a uniquely moving experience," he says. "Family history brings the individual in touch with parents, grandparents and other family members. It establishes meaningful contact across generations, building respect and tolerance. Without years of academic training, the family historian can know the joy of discovering information long since forgotten, and of transcribing recollections that otherwise would be lost forever. And each individual studied is connected to the historian by strong bonds."

Presuming everyone is now hot to see if great-great-Uncle Will was strung up as a horse thief, how do you get started? Dr. Lichtman says family reunions where gossip is swapped are always good breeding grounds for history. Then there are old letters, photographs, keepsakes and sometimes church or town records to explore. Diaries, record books, family Bibles and home movies help.

Dr. Wilton S. Dillon, director of the Office of Smithsonian Symposia and Seminars, planned and organized "Kin and Communities." He tells me that for

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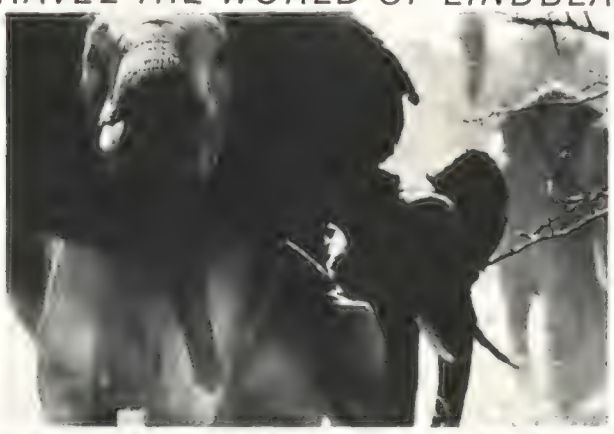

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those seeking their own handy-dandy family history kit, there is a book by Wyatt Cooper, *Families: A Memoir and a Celebration*, which Harper & Row published last year. It will get you started. Also, Margaret Mead, according to the latest news, will be speaking at St. John's Church, at 11 in the morning on June 15. For those who live nearby, that's the nice old yellow church across Lafayette Square from the White House. Her subject is *"The Family, the Nation and the World."*

The truly splendid thing about "Kin and Communities" is that it is designed to be fun. It is simply a suggested way for individual Americans to mark the national birthday—enjoyable, and good.

Among the improvements with which the Smithsonian joins in celebrating our Bicentennial is a cafeteria-classroom complex now under construction in the West Court of the Museum of Natural History. This building on the Constitution Avenue side of the Mall is already complicated enough inside to assure near-total loss of orientation unless you take very careful precautions, like tying the end of a ball of twine to the elephant in the rotunda and then unwinding it as you explore the many fascinating halls. I have never yet ventured through this museum without getting lost, and one of the curators says that he is similarly afflicted. He says he prefers not to think of it as "lost," exactly, since he works there. He goes along with Daniel Boone who, so the legend goes, when asked if *he* had ever been lost, replied, "No, but I've been plumb bewildered for two or three days at a spell."

Enough of that digression. The new addition at this marvelous museum will certainly make the building even more confusing to me and my curator friend (and to Mr. Boone, if he ever wanders through those corridors at midnight), but it's a noteworthy structure. I went to a briefing by the architect and was enchanted to learn how this forgotten inner court, where maintenance men sometimes passed on their way to fix things, and scraps of paper blew about disconsolately, is being filled with a bright new three-story building, throbbing with life.

When the addition opens in late May (I cannot report whether there are groans over *that* deadline), you will cross a structural bridge from the rotunda—unrolling your ball of twine—and so enter a tiled

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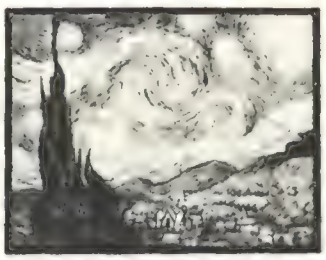

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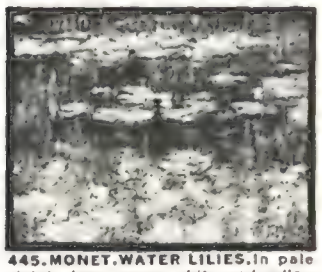

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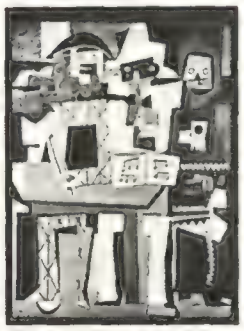

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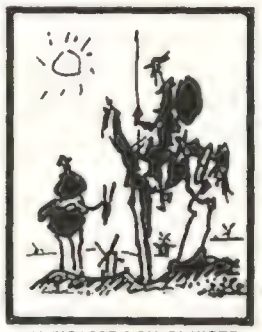

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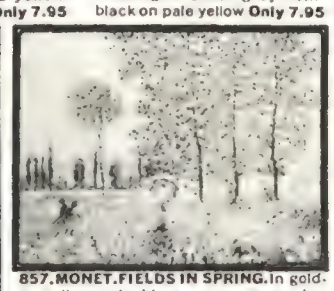

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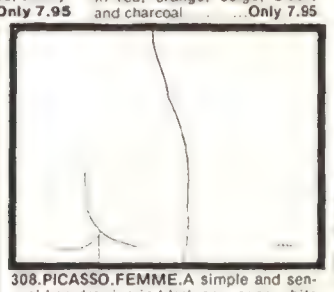

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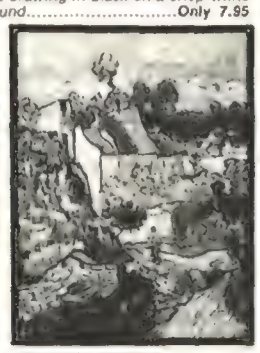

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court with a skylight beaming upon you and giving life to a generous display of plants. Here will be the museum bookstore. If you elude it, you will enter the cafeteria and buy packaged food from a carousel—this is for schoolchildren, mind you, not *Les Amis du Vin*. But let's not get snooty about that cafeteria for it will be rich with hanging plants, and one stone wall will be bathed by a waterfall, an architectural delight that I have not really stared at since I was at the bar of the old pink stucco Royal Hawaiian Hotel during World War II.

The decor is full of warm earth-colors and man-made fibers. Squares in the carpeting can be lifted up and washed and put back if a seventh grader spills his barbecued beef sandwich.

The Associates' dining room on the ground floor is reached by another bridge from the Baird Auditorium. The dining area is huge—60 by 60 feet, with an adjoining dining room for staff. Partitions allow these to be segmented into four classrooms. Again, decor is imaginative.

As the summer advances upon us, we expect to be happily deluged with Bicentennial visitors, and this addition will take the pressure off the Commons in the castle, where both Associates and staff have hitherto been eating.

One of the pleasant things about the Institution which the hordes of summer will surely notice is that museums are apt to surprise their guests with small, unscheduled bonuses. I ran into one of these dividends last month when I was wandering through the National Collection of Fine Arts. Suddenly, out of nowhere came the sound of music, and tracking it down, I found five serious young people playing an oboe, a clarinet, a flute, a bassoon and a French horn. They turned out to be the Oberlin Chamber Players, and they were giving the lie to the line Danny Kaye used about an oboe being an ill wind that no one blows good. This group blew very good indeed, and may stay together after graduation.

For generations, college musical groups from ukulele and coonskin coat days to guitar and peasant smock times have tried staying together to see if they could make it in the big time. If the world could live with all these, surely it can now stand five wind players dressed up in abundant talent.

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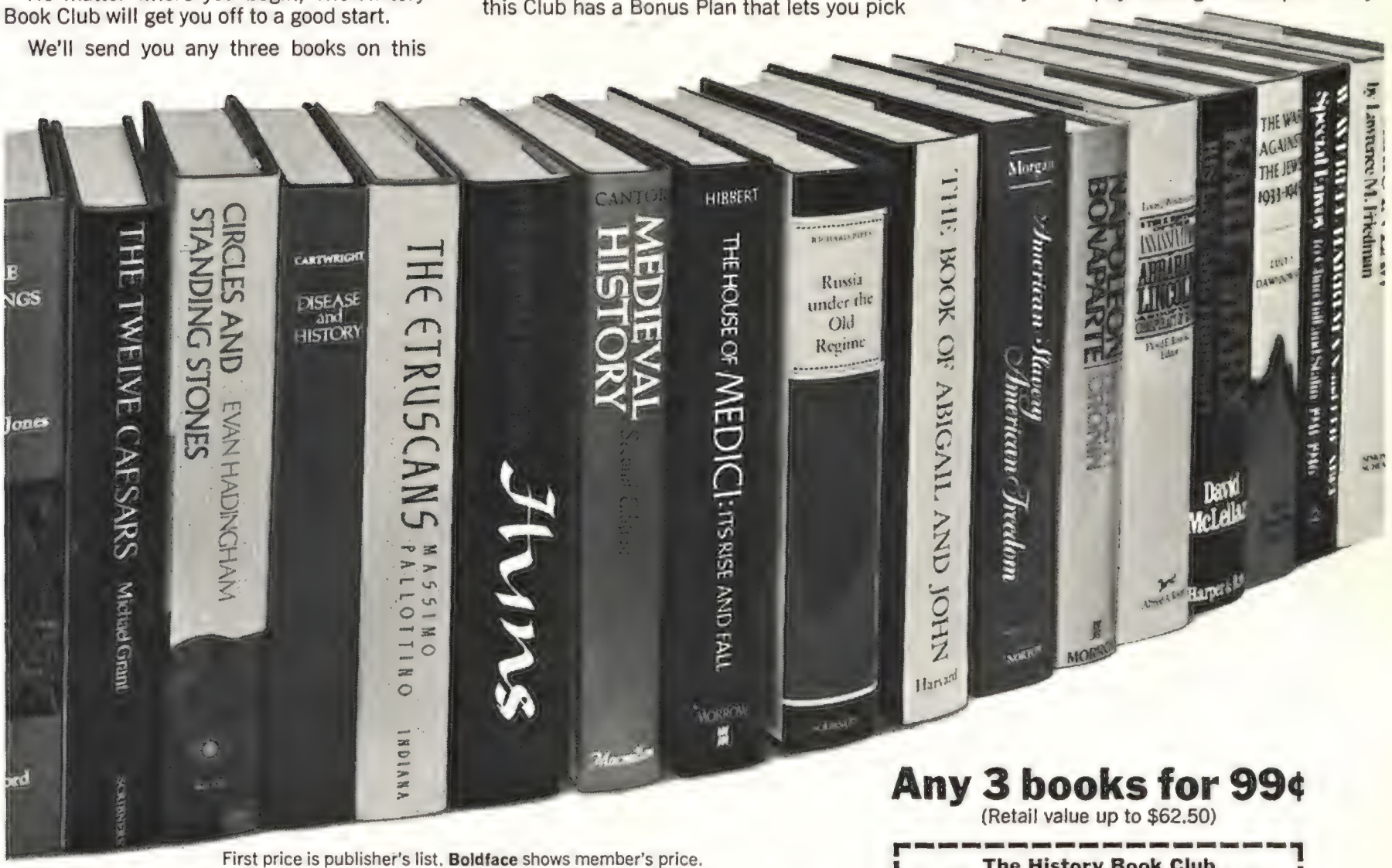

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By Joshua Taylor

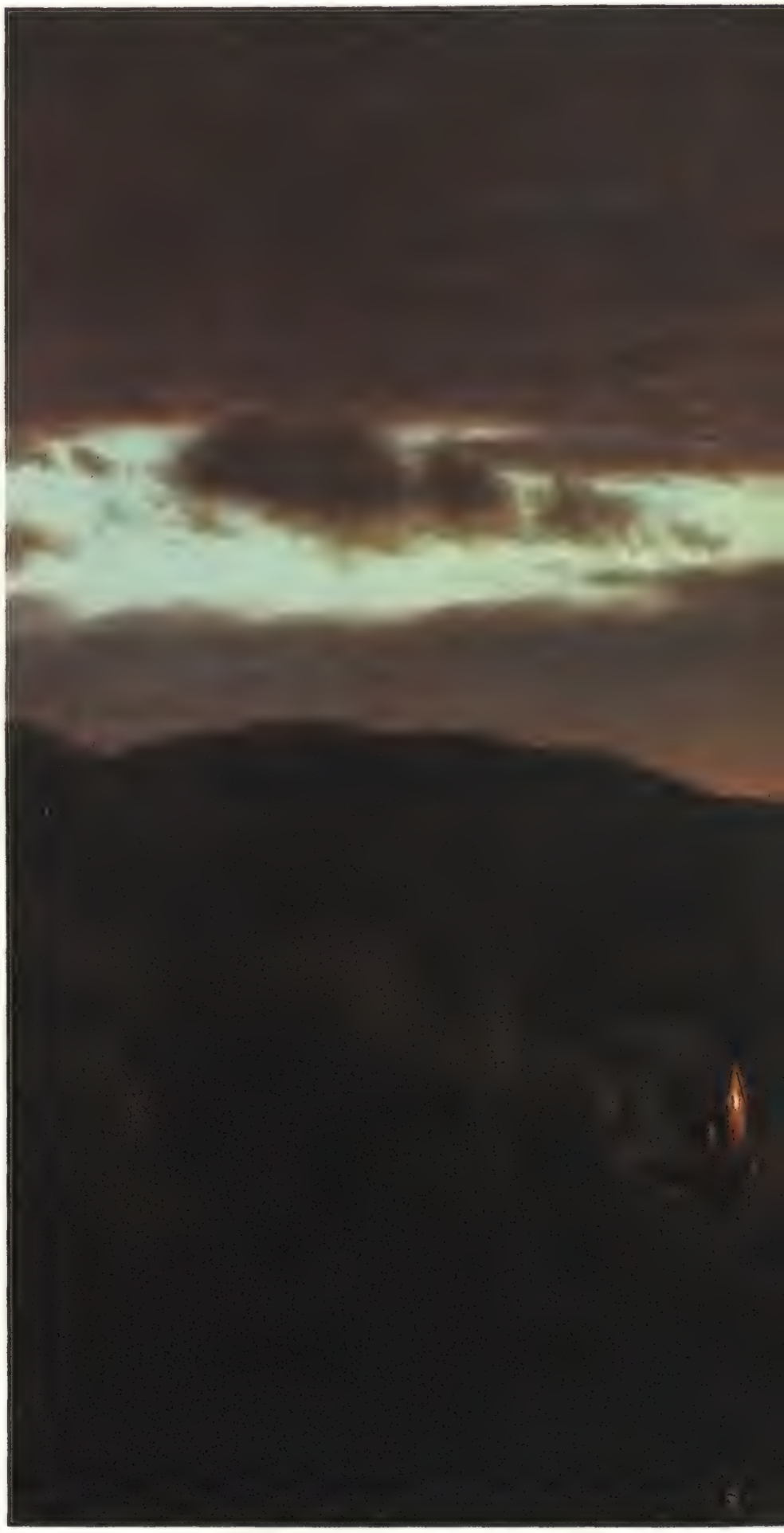
A personal and distinctive collection of American art makes its debut

The Fine Arts Museums of San Francisco, as a major event during the Bicentennial year, will show a choice selection of 17th- to 19th-century American paintings that come from a private collection not publicly shown before. The collection is that of Mr. and Mrs. John D. Rockefeller 3rd. In the art world Mr. Rockefeller is much better known for his interest in Asian studies and Oriental art, but 25 years ago American paintings first began to work their way into the midst of the venerable bronzes from the East, and now the Rockefeller homes and offices are shared about equally by the unlikely companions from East and West. And they get along surprisingly well together.

In the early 1950s, after one of their trips to the Far East, the Rockefellers decided that the superb Oriental collection that pretty well dominated their homes needed a Western complement. The paintings they had by French Impressionists were handsome, but it seemed wrong to have nothing that represented American culture. So they acquired two 19th-century American landscapes, one a spectacular sunset by Frederick Church (right), the other a characteristically somber view of a harbor by Fitz Hugh Lane (p. 38). "Fortunately," says Rockefeller, "they were fine paintings and we became very much attached to them."

The attachment was such, in fact, that the number of American paintings began to grow until they constituted a major collection, ranging from the 17th century to the early 20th. Along the way the eminent scholar E. P. Richardson, who over the years has been one of the major contributors to studies in American art, has furnished helpful suggestions to make the collection both varied and choice. He has written an essay for the catalog of the exhibition, which will be on view

Dr. Taylor is director of the Smithsonian Institution's National Collection of Fine Arts.



One of the first American paintings acquired by the Rockefellers, Frederick Church's *Twilight* is a

Although John D. Rockefeller 3rd originally favored Asian art, his newest acquisitions provide a great exhibition in San Francisco

Photographs by Otto E. Nelson and Henry Groskinsky

splendid example of the artist's celebration of nature, its light and its reverberations.

in San Francisco from April 17 to the end of July. The collection followed no set plan. There was no compulsion to "fill in gaps," Rockefeller says. Quality and interest were the only criteria.

Collecting works of art from America's past does not have a very long tradition. Although some few collectors in the last century made it a point to buy paintings by living American artists, most preferred European works. As for earlier American art, there was little interest beyond historical portraiture or the depiction of major events. Even today we tend to talk about European art in terms of esthetic values and of past American art in terms of social phenomena. Although a few masters, such as Copley (opposite) and Stuart, were recognized, the broad range of American painting was ignored by collectors and critics.

One way, however, was opened up through a rather unexpected channel. In the late 1920s several artists and some few collectors became interested in what they looked upon as American folk art—art created through the years by largely unschooled craftsmen whose expression was direct and personal. It was a kind of antidote to the "old master" obsession that granted little value to anything outside the standard repertory. To enjoy American folk art required a different set of standards, a sympathy for a different artistic environment. No one would put a wooden carving of Daniel Webster against a Michelangelo, but the stumpy wooden figure had a charm all its own.

Of course there is still a wide gap between the delights of folk culture and the appreciation of a 19th-century landscape painting, but once America gained the confidence to find pleasure in one kind of art from her past, the way was prepared for all sorts of discoveries. Although American historians still know less about some aspects of American art than they do about

Remarkable for its poetic spread of airy space (opposite), Fitz Hugh Lane's work was based on harbor scenes.

John Singleton Copley's sumptuously elegant portrait is of Mrs. Daniel Sargent as mid-18th-century bride.

This is a portrait of a family at home, but Eastman Johnson's *The Brown Family* is remembered for what it brilliantly evokes visually as art, a work of much technical agility with warm human overtones.

14th-century Sienese painting, and few universities even attempt to cover the subject adequately, serious study of American art has increased tremendously over the years (see "View from the castle," p. 6). In the process our perceptions have changed.

It was fortunate for the future of his collection that one of the early Rockefeller acquisitions was the painting by Fitz Hugh Lane. Its enigmatic quality could hardly fail to fascinate a sensibility schooled on Oriental art. Yet there was nothing exotic about Fitz Hugh Lane. He was a Gloucester, Massachusetts, artist born in 1804 who, not many years ago, was almost totally forgotten. His paintings of ships and the sea do not follow any of the more accepted traditions. The ships are not storm-tossed in dramatic violence nor is the sea shown as a refreshing stretch of vaporous, sparkling blue. At first glance his painting of *Ships and an Approaching Storm off Camden, Maine* seems no more than a meticulous rendering of the simple facts, clearly drawn and unemotionally set forth. In a way it belongs to that class of painting that memorialized the proud vessels of the shipping industry. But out of what would appear to be little more than a ship's portrait is kindled an astonishing mood of strange silence and deep reflection.

The Lane provided a good beginning for looking at early American art because so much of American painting depended on a paradoxical confrontation between object and idea, a confrontation in which the objects stubbornly retain their materiality while the mind dreams. This seeming contradiction has caused all manner of difficulties with terminology. Is Fitz Hugh Lane's painting realistic, romantic, mystical or all three? The standard art historical vocabulary is of little use, and it had already proved to be a stumbling block more than a century ago. Critics quarreled about the "real" and the "ideal" as if the artist had to choose sides to be saved. Most earlier artists in the United States believed in the ideal nature of art, but distrusted anything they could not see. Although some shared a belief in the ideals of classical form with their academic antecedents, others left the content of ideality to association and implication. The realm of ideal was to be sensed, not seen, provoked by a moment of stillness, not defined in a shape.

Eastman Johnson recorded an unremarkable action in *Girl Picking Waterlilies*, and fixed it forever as art.

Eastman Johnson's *Girl Picking Waterlilies* (left) is a good case in point. There is nothing remarkable about the action. A rather plain young woman kneels by a pond to pick a flower. Yet she exists in a remarkable stillness, as if for a split second her action is frozen. Whether she picks the flower and carries it home is of no concern; we are not inclined to tell ourselves a story. Something seems to take place in the encounter between the girl and the flower that claims our attention, almost as if the two were a reflection of each other. A magical instance is created in which nature becomes art and art nature, and seeing and feeling become one.

A delight in simply seeing

Possibly this is even more evident in Johnson's painting of the Brown Family (opposite), in which the luminous interior is so perfectly disposed that any hasty motion would destroy the whole reality. It is a kind of poetry of things in which each object is locked into its own identity, yet gratefully shares its existence in the warm pervasive light.

On the other hand, if one looks in the Rockefeller collection for evidence of a delight in simply seeing, there are many happy surprises to be found. One of the most delightful is also the simplest. Raphaelle Peale's little painting of a few lush blackberries (p. 44), each daringly isolated in space and picked out by light, is enough to rekindle a belief in the reality of matter. Why paint the exact image of a handful of berries? In

some ways to imitate is to possess, to make one's own. But the artist is not covetous of the berries. He could have eaten them if he wished. It is the sharp clean vision of the rich bright fruit, fresh and dazzling in the clear light and contrasting shade, that he wanted to possess. And he did, allowing us to possess it too.

Quite a large portion of the Rockefeller collection is devoted to portraiture, which is understandable considering the role that portraiture played in American art. Discounting purely decorative works, there was, in fact, little painting other than portraiture in the country before the early 19th century. It is easy to misread portraits of the past because we are so inundated with pictures of people that the significance of an isolated likeness can easily escape us. The dignity and importance of the single portrait and its bid for immortality are worth remarking as an antidote to our own situation, in which notoriety, as often as not, depends upon the diffusion of likeness rather than likeness being a confirmation of fame.

The earliest portrait in the collection, representing the Mason children (right), was painted in 1670. The painter was following a strict tradition in the representation of things. Where the children are, what kind of light they are in, what is the time of day—these are of no importance. Each child simply is, as is each button and bow. This is not a primitive tradition but a positive belief in the reality of substance as distinct from mere appearance. It pretends to be nothing more than a painting—delightful in design and somberly rich in color—that records for all time the images of three children and their finery.

John Singleton Copley's portrait of William Vassal and his son Leonard is one of four excellent Copleys among the Rockefellers' paintings (see cover). In the case of Copley, however, his sense of reality was tested by an acute awareness of vision. He saw with a greedy

The artist of *The Mason Children,* painted in 1670, is unknown; it is nonetheless a touching portrayal.

eye, noting each reflection and shadow, each wart and wrinkle, and even the dusting of powder on the older Vassal's shoulders. Since vision was dependent on light, he emphasized the flood of light across his figures, recording how differently it reflected from each individual part. Generalization came slowly to Copley: he believed in the unique instance.

When Rockefeller talks about this painting, he does not attempt to place it in Copley's early style or talk about its formal values. He talks at once about the expression of Vassal and the relationship to his son at his side. Copley would have been pleased. It is evident that, in his early years at least, Copley never separated character from form. That is, he had no preconceptions about what people should look like in order to make a good picture. So his pictorial pleasures had to be found in the actual features of his sitters. Think what it must have been to be a boy painted by Copley, seeing yourself in the sharp light of art, clearer in image than any mirror could reflect, granted a perpetuation not granted to others. The place of the artist was changing, however, and later portraitists were hardly content to leave their clients as they saw them.

By 1900, when Thomas Eakins painted his jaunty portrait of Frank Jay St. John (opposite), he felt it necessary in fact to fight off artistic mannerisms that had built up during the century to prove once more the basic reality of the object. He might have liked to have been another Copley, but a modern consciousness of the complexities of perception denied him any such simple vision. Here the environment does not live by appointment to St. John and the artist; it exists quite independent of the people in it. The rumpled clothes and seemingly casual pose are also part of an ongoing reality. The artist has seized upon the elements he treated to construct an artistic entity without arresting time. Although the brushwork is evident, it relates more to the restless atmosphere than to Eakins' hand. The order Eakins sought had to be found within the flux of changing perception, not imposed upon it, and with a discipline akin to that of the scientist he searched to find those clues that revealed the characteristic and particular. His subjects were often his friends and family, because his avoidance of easy bravura did not endear him to public figures who wished to see themselves in more heroic guise. In a way, Eakins' figures are heroic in their self-possession and human acceptance, but they have none of the godlike assurance and elegance of manner that could be bestowed by a painter such as Sargent.

Raphaelle Peale, American pioneer of still-life painting, created *Blackberries* (opposite) about 1813.

Thomas Eakins liked his sitters to wear workaday clothes. Frank Jay St. John, coal-dealer, obliged.

It is notable that Rockefeller has few paintings that boast of a dashing facility and assertive eloquence. He acquired one large elegant painting a few years ago, but has not yet found a place to hang it. Possibly it is the self-contained quality of his Oriental art that makes easy pictorial victories seem out of place on his walls. Or it may be his own pleasure in seeking out the quality in a painting instead of having it continually advertise its virtues in his presence. For all its variety, this is a very personal collection. Of course it stops short of the modern movements, but that, Rockefeller explains, is his wife's department. Blanchette Rockefeller is president of the Museum of Modern Art in New York and has been an active supporter of that institution for many years. Their artistic tastes complement one another.

Such a group of paintings provides endless questions and infinite satisfactions. The collection has been put together less with a sense of possession than with a delight in knowing. Each painting has its own character and, when it enters the collection, raises new questions about the character of many others. An understated landscape by John Kensett makes one see the bold mountains and dramatic light of an Albert Bierstadt with a different eye. An early Winslow Homer from the years of the Civil War provides a sobering note for the consideration of genre. Rockefeller is aware that paintings do not often reveal their full content at once. In his private office hangs an early painting by Thomas Cole, *View Near Catskill Village*, a quiet painting that somehow mingles Claude Lorrain and the American landscape. At first he was not especially taken with the painting, he admits, but now it has a place of honor, satisfying by the subtlety with which it presents its half-concealed beauties. So each new painting is an adventure in seeing, a new personality to get to know.

By now the Rockefeller collection consists of 176 paintings, 106 of them in the exhibition, and has grown to the point that not all of the works can find places on the walls, even using his city and country homes and his offices. So when the chosen works are viewed in San Francisco and later, from September 16 to November 7, at the Whitney Museum of American Art in New York, there will be a chance to get better acquainted with some paintings that have not been seen for a while. For its part, San Francisco has great plans for the paintings on exhibition. Ian McKibbin White, the director of the San Francisco Fine Arts Museums, has seen to an effectively designed installation that will bring forth the Rockefeller paintings and the museums' own American collection together in complementary relationship, so that the city can feast on a major representation of American art. Professor Wanda Korn of Mills College in Oakland, California, has been working with the museums in planning public programs and university courses around the exhibition. For many, the variety and richness of these American paintings may come as a surprise, for America has waited a long while to discover creative pleasure in the arts of its own past.

A relaxed Rockefeller says there was no compulsion to "fill in gaps." The criteria were quality and interest.

A foyer in the Rockefeller city apartment: English period furniture, Asian art and a George Caleb Bingham, *Boatmen on the Missouri.* Shown in New York in the 1840s, it was rediscovered in 1966.

By Robert K. Murray

The Democrats vs. Frustration City: it was no mix

New York didn't make it any easier, in 1924, on deadlocked delegates, divided over such hot issues as Prohibition and the Klan

Banners, MAC'LL DO, greeted William Gibbs McAdoo (waving on balcony), in Manhattan.

This summer, for the first time in 52 years, the Democratic Party will hold its convention in New York City. The last occasion was a disaster, though it shouldn't have been. After making spectacular gains in the Congressional elections of 1922, the Democrats had reason to believe that they could capture the White House in 1924. Their Republican opponents had seen the country out of an economic recession, but were stuck with the corrupt image left them as a legacy by the Harding scandals. "Silent Cal" Coolidge, the incumbent President-by-accident because of Warren Harding's sudden demise in 1923, was considered a lightweight and incapable of inspired leadership. Besides, Coolidge, though in control of his own party, faced a rebellion by maverick Senator Robert M. LaFollette, who, in the end, would decide to head his own third-party "Progressive" ticket.

But the Democratic Party rapidly became a victim, not the victor. Splintered into Northern, Western and Southern wings, and harassed by a host of divisive social and cultural issues, the party stumbled out of its convention in the old Madison Square Garden in the summer of 1924 and into a staggering political defeat. Not only did Coolidge win over them going away, and over the hapless LaFollette Progressives, but the Republicans also captured both houses of Congress along with most of the nation's governorships and state legislatures.

From the beginning the Democrats were dogged by difficulties. Presidential candidates representing every shade of opinion and every group within the party appeared as if by magic in 1924. Throughout the late winter and spring they fought each other bitterly, leaving behind much animosity and a trail of favorite-son candidacies. Many of these rested on nothing more than oversized ambition, but they all fed on deep-seated societal cleavages—farm against city, native against immigrant, Catholic versus Protestant, Ku Klux Klan versus anti-Klan, religious modernism versus Bible-belt fundamentalism and "dry" versus "wet."

Two of the candidates, in particular, came to symbolize the party's many differences—William Gibbs McAdoo and Alfred E. Smith. McAdoo was Woodrow Wilson's son-in-law and a former secretary of the treasury who drew most of his support from the Klan-infested Western and Southern wings of the party. A Californian in 1924, McAdoo ironically had spent much of his adult life in New York City where he had been responsible for the completion of the uptown and downtown Hudson River tunnels. Militantly dry, a Protestant and farm-oriented, he was the darling of many former pro-Wilson elements in the party despite his being named in the Teapot Dome investigation in February 1924 as having received large legal fees from the oil interests for various services rendered.

But he didn't do; after 103 ballots he lost out to John W. Davis—who lost in turn to Coolidge.

They played his song interminably, but city-boy Alfred E. Smith, urban threat to McAdoo, lost too.

Al Smith, a native New Yorker, born of parents of Irish descent, had supported Tammany Boss Charles F. Murphy, and was second-term governor of the Empire State. A Catholic, wet, and a vigorous opponent of the KKK, Smith rapidly converted his brown derby, cigar and Bowery aphorisms into tangible signs of the rising influence of the urban masses in political life.

It was fitting that the nation's largest city should become intimately involved in the Democratic Party trauma of 1924. New York City had a poor record as a political convention site. The last time it had hosted a major party convention was in 1868, when Horatio Seymour was nominated in Tammany Hall by the Democrats. But it was determined not to be overlooked in 1924. Herbert Bayard Swope, executive editor of the New York *World,* began a year ahead to trumpet the virtues of New York as a convention city, and he was joined by a host of other advocates. Foremost among them were Boss Murphy and Norman Mack, New York's national committeeman. These men applied pressure on the Democratic Party's top councils while a group of New York businessmen raised a fund of $255,000 to outbid any other contenders.

When the national committee met in Washington to decide the matter in January 1924, there were only four cities in contention—Chicago, St. Louis, San Francisco and New York. San Francisco was in a weak position because of having had the Democratic convention in 1920. St. Louis offered too little money. Chicago rested its case on geographic accessibility and a bid of $165,000. New York presented by far the best package. Norman Mack skillfully marshaled support among his national committee colleagues and emphasized that New York wanted the convention, if for no other reason than to dispel the notion that the city was a cold and unfriendly place.

That New York's neutrality should be questioned at all was indicative of the suspicions and animus that permeated the party. Still, most Western and Southern elements, including the supporters of many of the favorite sons, were privately glum over the prospect of trusting their candidates' destinies to the vagaries of that "evil" city.

Of the $255,000 New York had offered for the convention, $55,000 had been pledged by George L. (Tex) Rickard, sports promoter and Madison Square Garden's operator. Also as part of the New York package, Rickard had promised to give to the Democratic Party the use of the Garden free of charge. Rickard shrewdly calculated that he would easily recoup his investment

through concessions alone, and even grandly announced that he would permit the Democratic Party to retain all his profits above $55,000.

Madison Square Garden had been built in 1890 and was once billed as "the most beautiful building in New York." A masterpiece of the architect Stanford White, the yellow-brick edifice commanded an unobstructed view when first erected, and Saint-Gaudens' *Diana,* which perched atop its ten-story tower, was New York's most elevated work of art. Situated in the block bounded by 26th and 27th Streets and by Madison and Fourth Avenues, the Garden had witnessed some stirring political events, including the oratory of William Jennings Bryan and Woodrow Wilson; but it was much more accustomed to horse shows, circuses and prizefights than to affairs of state. Its history was primarily of crowds crying for blood or oohing at the tricks of aerial artists.

Perhaps the Garden's most sensational event had occurred in 1906, when Harry K. Thaw, a wealthy playboy, shot and killed Stanford White in the Garden's rooftop theater café in a fit of jealousy over Evelyn Nesbit Thaw, a former chorus girl. This scandal alone had made "the Garden" a household word. Splendid for yesterday, Madison Square Garden was neither large nor so beautiful in 1924. By then the Garden was about to make way for a huge office building for the New York Life Insurance Company. A new Garden, with almost twice as many seats, was to be erected on the old Eighth Avenue streetcar-barn site at 50th Street.

To serve the convention, the Garden required a facelift. The remodeling had to wait until the Ringling Brothers and Barnum & Bailey Circus and other events were over. Then architect Henry I. Cobb moved in with a crew of almost 200 men, ripping out the Garden's insides and adding to its seats. The changes were striking. The big room in the southwest corner where the freaks stayed when the circus was in town was made into an attractive restaurant. An elevated speakers' platform was placed on the north side midway between Fourth and Madison Avenues. The ugly steel rafters were masked by $15,000 worth of patriotic bunting, giving the ceiling the look of the inside of a striped candy box. Since the 1924 conventions were the first to be carried by radio, special arrangements were provided for broadcast equipment.

New York took its role as host seriously. In truth, the metropolis reacted to the coming of the Democrats like a small town. William Allen White, who knew something about small towns, called it "Hickville-on-the-Hudson" in its pre-convention "boosterism" and in its feverish attempts to outdo anything that any city had done before. Hotels pledged not to raise their room charges during the run of the convention. Restaurants agreed to keep their food prices steady and to cater to the delegates' every whim. Restaurateurs promised fried chicken, Virginia ham and waffles for Southerners; hot tamales and chili con carne for Southwesterners; steamed sweet potatoes, butterscotch pie and boiled turkey for Westerners; and egg noodles and wiener schnitzel for Mid-Americans.

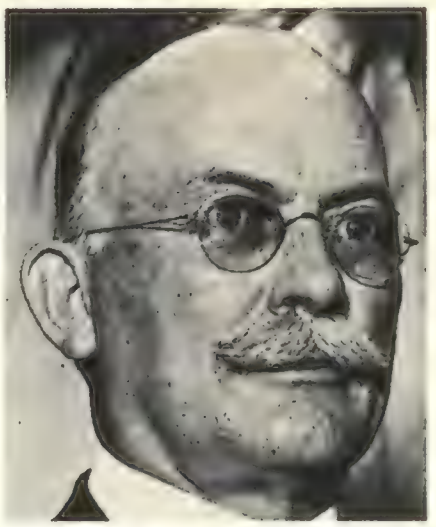
Coney Island announced that it would remain open around the clock if necessary. Broadway and the entertainment world geared themselves up. Much was promised for the delegates to see. At the cinema there would be Cecil B. DeMille's *Ten Commandments,* Douglas Fairbanks in *The Thief of Baghdad,* and Harold Lloyd in *Girl Shy.* If movies were not to their liking, delegates could go to the legitimate theater and enjoy *Abie's Irish Rose, George White's Scandals,* Eddie Cantor in *Kid Boots* or Will Rogers in *The Ziegfeld Follies.* If nothing else appealed, a delegate could always go to the Polo Grounds to watch the league-leading Giants play or to Yankee Stadium to cheer up the Yankees, who were then in second place because Babe Ruth was in a brief batting slump.

Even under normal circumstances, New York offered so many diversions and so great an opportunity for individual indulgence that the programming of some of this entertainment was superfluous. As one observer said, if a delegate wasn't careful he might never see the inside of the Garden. New York tried in

All 16 of these men were put in nomination—among them William Jennings Bryan's "Brother Charlie" and the tobacco-chewing Brown, once a Boston Doves fielder. Alabama's "24 votes for Oscar W. Underwood," ballot after ballot, stays in radio listeners' memory; it symbolized deadlock.

The roster of hopefuls put into nomination at the convention

Governor Fred H. Brown of New Hampshire



Governor Charles W. Bryan of Nebraska, the V.P. nominee

James M. Cox, former governor of Ohio

John W. Davis, West Virginia, once ambassador to U.K.

Governor Jonathan Davis of Kansas

Senator Woodbridge N. Ferris of Michigan

Senator Carter Glass of Virginia

David H. Houston, New York, ex-agriculture secretary

William G. McAdoo, California, ex-treasury secretary

Senator Samuel M. Ralston of Indiana

Governor Albert C. Ritchie of Maryland

Senator Joseph T. Robinson of Arkansas

Willard Saulsbury, former senator from Delaware

Governor George S. Silzer of New Jersey

Governor Alfred E. Smith of New York

Senator Oscar W. Underwood of Alabama

Convention cacophony was kidded in Berryman cartoon. The lady was a symbol, like GOP elephant.

every way possible to make the delegates feel at home. Wet, and not normally worried by it, the city even tried to reduce any embarrassment to dry delegates by discouraging bootlegging during the convention. (The success was only minimal.) The city also attempted to crack down on its criminal element. The pickpocket squad and the bunco detail were doubled. Known thugs were rounded up and put in jail without bail.

In such painstaking and elaborate manner, New York City prepared. All that now remained was for the delegates to come.

They came from everywhere and in every manner. The first delegates to arrive were from Puerto Rico. They stepped off their boat on June 15, were met by their entertainment committee and were taken to their quarters in the Belmont Hotel. Throughout the following week New York was deluged by arriving delegations. One of the last major groups—the pro-McAdoo Texas delegation—came to town Sunday, June 22, just missing the lighting of the "Avenue of States," the most expensive illumination ever undertaken in the city. Fifth Avenue suddenly became "a golden way," with gold globes in the lampposts instead of white ones, and streamers of orange, white and blue lights running down each side of the avenue from the Plaza Hotel to Washington Square Arch. There a battery of searchlights threw multicolored rays into the sky. Each block along this strip was dedicated to a separate state or territory, festooned with its flag or banner, and contained six lampposts decorated with its name and seal. Beginning with Alabama in the block between Washington Square North and Eighth Street, the names continued to the uptown block dedicated to Wyoming.

This article is an adaptation of a chapter from a forthcoming book, The 103d Ballot, *by Dr. Murray, history professor at Pennsylvania State University.*

Yet by the time the convention opened on Tuesday morning, June 24, the situation in New York was deteriorating. The first casualty was the attempt by New Yorkers to impress the delegates. Instead of promoting party harmony, the city itself encouraged heightened acrimony. Even before McAdoo arrived, his supporters were damning the city and charging that no candidate but Smith would get a fair hearing there. He alighted from his train asserting that the New York press was purposely distorting the news in favor of the city's native son. To dramatize his feeling, McAdoo refused to attend a dinner for all delegates and their wives given by the city on Monday evening, June 23. He felt that it was stacked for Smith.

McAdoo's complaints would have had less impact were it not for the fact that New York *was* failing in its attempts to allay delegates' suspicions. Everything seemed to conspire against a better New York image. On Sunday, June 22, it was hot and muggy, the temperature shooting into the high 80s. It was a good day for the beach—provided one could get there. The Coney Island buses were mobbed and out-of-towners quickly lost out to rude natives who were much more practiced at yelling and shoving. Those visitors who finally got to Coney Island were bewildered by the crowds and convinced that back home was better.

Those who did not go to the beach but wandered downtown to 14th Street to gawk at Tammany Hall, with its ancient Indian above the door, reacted as if

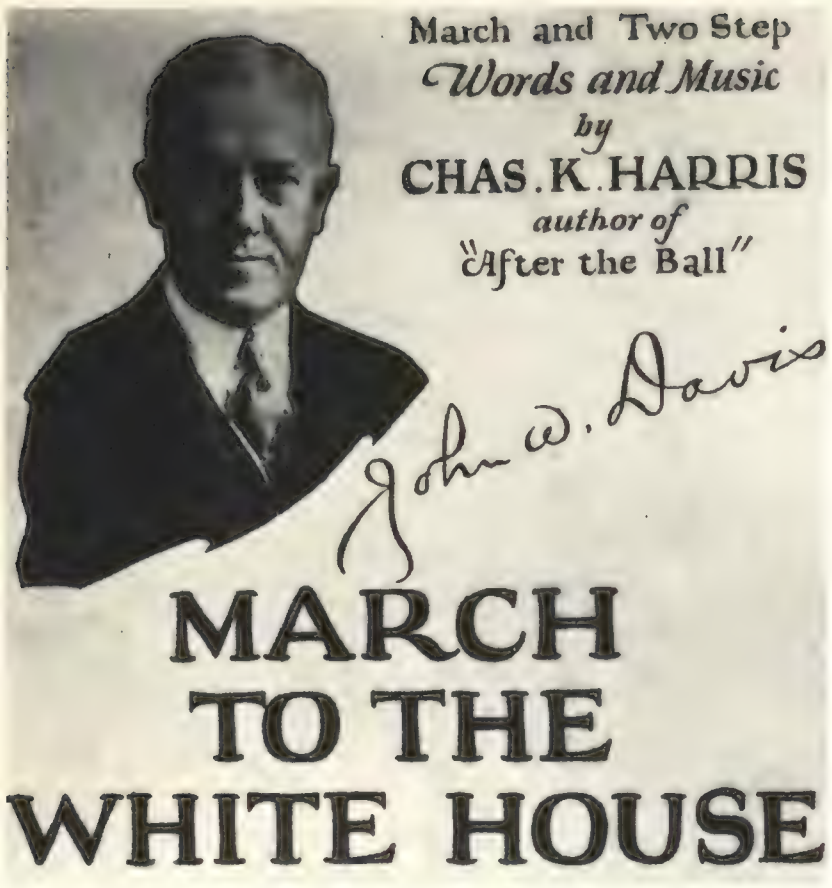
they expected to see an ogre come popping out. Others, taking a stroll in Wall Street and past the Stock Exchange, were intimidated by the mute and imposing buildings and had their fears about Eastern money conspiracies and financial cabals reinforced. Almost all delegates were dismayed by the traffic, the noise and the hustle, and frequently repeated among themselves the old (even then) saw that New York was a great place to visit but not to live in.

The press in the rest of the country, especially in the West and the South, happily reported all the drawbacks of New York but none of its advantages. Stories were constantly carried about delegates being "robbed" by hotels, restaurants and taxi drivers. Western and Southern delegates, it was claimed, were the unwitting and helpless victims of unscrupulous and immoral city slickers. Certainly it did not advance New York's reputation for sensitivity and sophistication when a group of church-seeking Texans found, on their first Sunday in the city, that the block of the "Avenue of States" dedicated to the Lone Star State contained that fortress of Roman Catholicism, St. Patrick's Cathedral.

Not surprisingly, with the fall of the gavel on June 24, the McAdoo forces, as well as those of many Southern and Western favorite sons, were already openly antagonistic toward their host city. Their reasons were paradoxical. On the one hand they claimed that New York was a cold, inhospitable, selfish, mercenary place; on the other hand they warned their followers not to believe the city's warm display of hospitality because it was a trap. At the heart of the matter, of course, was the fact that New York represented everything that was alien to them. Here almost three-quarters of the white population were either foreign-born or the children of foreign-born. Here was the largest concentration of Jews and Catholics in the country. Here was the home of Wall Street, of boxing and Sunday baseball, of Tammany Hall. And here was the Sodom of the prohibitionists—home of such infamous nightclubs as the "Silver Slipper," "Rendezvous" and the "Cotton Club," where the "suckers" came to hear the throaty songs of Helen Morgan or suffer the insults of the brassy Texas Guinan, and where liquor was easier to get than water.

Some of the New York press went out of its way to taunt the McAdoo forces and loved to point out the connection between McAdoo followers, fundamentalism, prohibition and the Klan. New Yorkers, meanwhile, rallied around their favorite son. In the week prior to the convention, every movie theater in the city showed films of the New York governor. Everywhere there were Smith banners, Smith buttons and Smith posters. Subway stations, elevators, downtown billboards, even traffic signs, were plastered with the name

Nominating Al Smith, Franklin D. Roosevelt used the phrase "'Happy Warrior' of the political battlefield." The label stuck—but the Presidency lay in the future of the phrasemaker, not the Warrior.



Official campaign song did not help, for the John W. Davis "march" ended short of the White House.

"Smith." Taxicab drivers urged their fares to vote for Al. Babe Ruth advertised Al as his candidate. Eddie Cantor, who had been an East Side boy on Catharine Street when Smith had lived nearby, took time out while playing in *Kid Boots* to make a personal pitch for Al. All this was contagious. On Monday night, June 23, in the theater where *The Melody Man* was playing, a pro-Smith partisan shouted out "Al Smith of course" at a point in the script where one actor asked, "Who is Alfred?" This prompted so much cheering and foot-stomping that the play was brought to a halt. The old Tin Pan Alley song, *The Sidewalks of New York,* was played and heard endlessly and soon grated on the ears of visitors.

As complaints against the city grew, New York became waspish. Maids and hotel managers were soon complaining that out-of-towners knew little about tipping and that many were reneging on their bills. Cabbies claimed that instead of paying their fares, visitors would airily tell them, "Charge it to the Convention!"

Such misunderstandings and antagonisms would have remained little more than an interesting social phenomenon, were it not for their impact on the candidates and on the outcome of the convention. Although ultimately stymied in his own efforts to win the nomination, McAdoo was stung by the boorish action of the pro-Smith claques both in the city and at the convention. He refused to withdraw or, until the 99th ballot, release his delegates, convinced that all the "evil" forces of the East and of the liquor interests were against him. Smith, contrary to the advice of his campaign manager, Franklin Delano Roosevelt, unwisely allowed the issue of the Klan to inflame the Madison Square Garden galleries. If this was an attempt to defend himself and the battered honor of his city, it was futile.

Many of the favorite sons, meanwhile, despite the fact they could muster no significant delegate strength, insisted on remaining in the race and thereby helped to prolong the stalemate. Until July 10, for 14 sweltering days and nights, the convention droned on before finally compromising on—and giving the then necessary two-thirds vote to—John W. Davis, favorite son of West Virginia, as its Presidential selection and Charles W. Bryan of Nebraska as his running mate.

In the process, the delegates at one time or another cast votes for 59 different persons—a record. The convention's 103 Presidential ballots set another record. Before it ended, the gathering savaged the reputations of most of its own party's leaders, booed and hissed William Jennings Bryan (a former three-time Presidential nominee) during a speech, and came close to a riot over condemning the Ku Klux Klan in its party platform. It heard more speeches, listened to more spoken words, spent more time in committee and witnessed more demonstrations than any other such assemblage in history. Further, it wrote an all but endless platform, spent more money and went farther into debt. In tons of debris collected, food consumed and soda pop drunk, it also set records. The caterer to whom Tex Rickard gave the hot dog and cold drink contract made a fortune.

More significant, this convention represented the virtual eclipse of the Democratic Party. Democrats thereafter would watch helplessly as "Coolidge prosperity" washed over the country and as Herbert Hoover, the Republican nominee in 1928, smashed Al Smith. The party would not recover from its self-inflicted wounds until 1932, when one of the heroes of the 1924 Garden imbroglio, Franklin D. Roosevelt, finally supplied charisma and a healing influence in the Great Depression to restore it to health.

Of course, as the exhausted and frustrated delegates fled the old Madison Square Garden in early July 1924, they could not foresee all this. But most already had privately vowed that they would never again entrust the destiny of their party to another convention held in New York City.

Madison Square Garden was all dolled up and floodlighted throughout the long convention.

By Charles Lockwood

As near to paradise as one can reach in Brooklyn, N.Y.

Green-Wood, lovely cemetery with a view, was the *fashionable final resting-place for death-enamored Victorian New Yorkers*

Few American generations have ever celebrated life with the enthusiasm of New Yorkers in the 1840s and 1850s. Theirs was an age that captured the fancy of an entire nation by introducing Fifth Avenue mansions, expensive Paris ball gowns, reckless Wall Street speculations, French cuisine and many more extravagances to a still mostly bucolic country.

When it came to the Victorian fascination with death, New Yorkers relished its melancholy and inevitability with the same gusto with which they pursued life. At their most fashionable cemetery, Green-Wood, they elevated the celebration of death to perhaps the grandest, loveliest and most maudlin form that had yet been seen.

Green-Wood is a 478-acre wonderland of statuary, rolling hills and lush foliage on Brooklyn's Gowanus Heights overlooking New York Bay and lower Manhattan. Within a few years after its first burial in 1840, it was one of the leading tourist sights in New York—indeed "the most interesting and celebrated cemetery in the world," an 1850 New York guidebook boasted.

Wide-eyed tourists carried stories of Green-Wood's splendors back home, and by the eve of the Civil War many an American city had its own version of this "model city of the dead." But New Yorkers, one journalist jested, were "more indifferent about the famous cemetery, because, perhaps, they know they are certain to go there sooner or later."

New Yorkers actually were anything but indifferent to Green-Wood: during the 1850s, more than 100,000

Most of Green-Wood Cemetery's permanent residents, being six feet under, never got to see the

local people and tourists swarmed there each year. Manhattan bookstores did a brisk business selling the several guidebooks to Green-Wood, while at least one Broadway photographer anticipated the picture postcard by selling daguerreotype prints of the cemetery's favored views and monuments.

Green-Wood had indeed become the "resort" some genteel New Yorkers feared it would. On pleasant Sunday afternoons hundreds of well-dressed, well-behaved families strolled along the paths, maps and guidebooks

towering skyscrapers of Manhattan that now reach for the sky across East River from their quiet haven.

in hand, while smartly turned-out carriages rolled up and down the winding roads. But those visitors, ironically, had their own complaint about the "drawbacks to the pleasures of an afternoon visit to Green-Wood," namely, "the funerals [that] stream in, in an almost continuous procession," getting in their way and spoiling the festive mood of their outings.

Green-Wood's popularity came from something more than the era's fascination with death. New York was then woefully lacking in public parks, and Green-Wood, according to one 1856 newspaper, was "probably the best kept park in the United States." Thousands of trees and ornamental shrubs had been planted there to enhance the rustic feeling while "the original trees flourished in more than original luxuriance."

Green-Wood was an expression of the Romantic tradition in landscape, which later gave New York its Central Park and Brooklyn its Prospect Park. The great burial ground was so idyllic, said the New York *Herald,* that "no doubt . . . some people in good

Photographs by Marvin E. Newman

health" would hasten their end so "that they may have the enjoyment of being buried as soon as possible in that beautiful location."

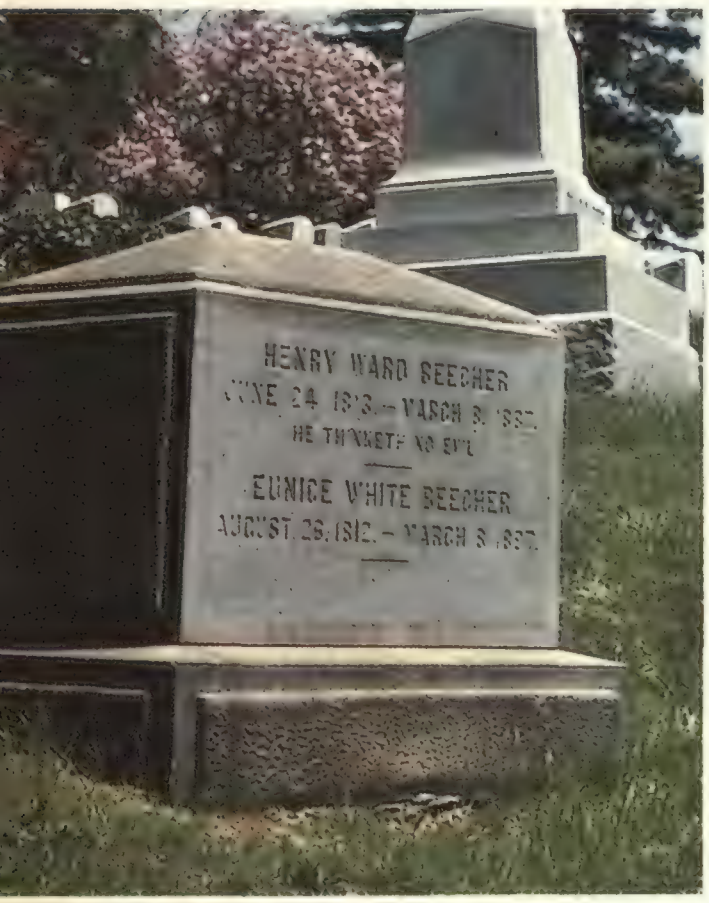
Besides its landscaped charms, Green-Wood was better suited for burials than the then-customary city churchyards. Those, more often than not, were unpleasant scenes of "neglect and ruin." Gravestones were crowded together and always in some stage of falling over because of gravedigging nearby. The grounds were muddy or filled with uncut grass and weeds, and the coffins were literally stacked one on top of another because of a shortage of space.

Worse yet, the city churchyards were anything but "a still and silent spot where your bones might rest in peace forever." As New York grew farther up Manhattan each year, the churches followed their congregations uptown and sold their old buildings in the increasingly commercial downtown neighborhood. As the congregations busily erected their new churches on some fashionable uptown avenue, they forgot about those coffins lying in the old churchyards, unclaimed by any descendants. As an old church came down for a new office building or warehouse, the builder's crew dug up the desecrated graveyard—the "crumbling coffins and mouldering remains . . . thrown rudely into the glare of day" to be carried to the city potter's field or hauled away with the rubbish of the old church.

Rural cemeteries, on the other hand, restricted the use of their land for anything but burial, thereby insuring the "undisturbed repose for the loved and lost" which was so uncertain in the city. By 1855, just 15 years after the first burial, 45,576 people had been buried in Green-Wood. Ten years later, the number of graves had grown to 116,167, with several hundred thousand additional lots purchased for eventual use. Several thousand of these burials were reburials—the coffins removed from old crypts in city graveyards by families fearful of the future even at such august sites as Trinity Church or St. Paul's Chapel.

With plenty of land available at Green-Wood for a price, rich families flaunted their wealth by building grand mausoleums that would have been out of the question in the confined city churchyards. By the 1850s the Whitneys, Aspinwalls, Howlands, Lorillards, Schermerhorns, Pierreponts, Havemeyers—all leading families of the era—had erected great stone Grecian or Gothic-style tombs costing upwards of $20,000, a sum which then would buy a fine brownstone on any of New York's most fashionable streets. In the flush post-Civil War years, some tombs cost close to $100,000.

Perhaps the grandest, yet loveliest, tomb of the 1850s belonged to William Niblo, owner of the famous theater and restaurant complex on Broadway known as Niblo's Gardens. The Gothic-style mausoleum of gray marble (pp. 60-61) still stands along the broad banks of tree-lined Crescent Water, a small hillock rising behind its pitched roof as a backdrop. A broad stone stairway leads from the road along the water's



Beecher the preacher and his widow share modest monument in Green-Wood.

Horace Greeley's flashier grave marker is topped by the editor's bust.

The great printmaker Nathaniel Currier and members of his family are buried

edge to a terrace and the tomb, which is flanked by a pair of heraldic lions. From the other side of Crescent Water, Niblo's tomb is particularly striking, framed by the hillock and reflected in the water. The swans and ducks swimming around the pond add a pastoral touch that has always delighted visitors.

Rich New Yorkers of the 1840s and 1850s found Green-Wood an especially reassuring spot for their mausoleums because the cemetery, like Manhattan, had particularly expensive spots that were out of reach to all but the truly wealthy and fashionable. Families who were neighbors on Fifth Avenue or had adjacent boxes at the Academy of Music often shared the same stylish hillock or dell in Green-Wood.

Green-Wood's status also inflamed the hearts of the city's rising middle class, who, by virtue of their numbers, made up the bulk of the cemetery's burials. The prices of lots encouraged middle-class, even working-class, families to dream of being buried there. The standard 12 x 25 foot lot cost $110, but a family could buy just a portion of a lot at a proportionately reduced price. Children could be buried in certain areas of the cemetery for only $5.

The tombs of the middle class were modest in size, slightly crowded, and generally lacked the lush carved ornaments of the mausoleums, but they *were* in Green-Wood, often just down the hill from the tomb of a famous family. A tomb in Green-Wood, in fact, conferred such status on its owner in life that in 1870—years before funeral directors had thought up the idea of "pre-need" services—two-thirds of the purchased lots in Green-Wood were empty.

The passage of a century has robbed Green-Wood of its social prestige but not the beauty of its grounds. It is one of the nation's finest remaining examples of the Romantic landscape tradition. The view of New York Bay from Green-Wood, which contains Brooklyn's highest spot at 216 feet above sea level, is as beautiful as ever, while the years have made the sight of lower Manhattan more breathtaking because of the skyscrapers clustered around the Battery.

Time has only enhanced the attraction of Green-Wood's tombstones and hundreds of mausoleums. The latter show the architectural styles and superb craftsmanship that graced the now largely destroyed homes and commercial buildings of 19th-century New York. The statues scattered throughout the grounds are some of the best Victorian sculpture extant in America.

Green-Wood, too, is the burial spot of some of the century's best-known men and women. Its 500,000 graves include those of such Victorian worthies as Henry Ward Beecher, Peter Cooper, Nathaniel Currier, James Merritt Ives, Horace Greeley, Samuel F. B. Morse, Duncan Phyfe and James Renwick jr., the ar-

Charles Lockwood, ex-Brooklynite, is author of Bricks & Brownstone; the New York Row House, 1783-1929, an Architectural & Social History.

in Green-Wood, and not far away reposes his longtime partner, James M. Ives.

A sea captain put up statue at his plot, held picnics beside it for 20 years.

The initials are those of Samuel Finley Breese Morse of telegraph fame.

In life, William Niblo ran a Broadway entertainment center, Niblo's Gardens. In death he has a lovelier

chitect who designed the Smithsonian castle, along with such not-so-worthies as New York City "Boss" William Marcy Tweed and Lola Montez, the notorious courtesan who had been the mistress of, among others, Ludwig I of Bavaria.

With all these sights, it is odd that Green-Wood has lost its earlier attraction for tourists and New Yorkers. On a warm, sunny weekday afternoon, a visitor often will see just a handful of other people, most of them coming to pay their respects at a grave. The main entrance, at Brooklyn's Fifth Avenue and 25th Street, is the first of Green-Wood's delights. Built entirely of brownstone, it is a frenzied Gothic Revival collection of pointed arches, medieval sculpture and elaborately carved towers, all massed vertically to turn the visitor's eyes upward to heaven. Once past the entrance, the road splits in two, the left fork generally leading to the highest land in the cemetery and the right fork leading to other hills and the several ponds.

Actually, it is best to wander aimlessly for a while, enjoying the beauties of such quaintly named spots as Twilight Dell or Valley Water and stumbling upon the tombs of people whose names are familiar even if one can't remember why. The tombs themselves evoke a wide range of emotions. The small Egyptian pyramids and 14th-century Gothic chapels with family names proudly carved above the doorways often produce not awe but thoughts of human vanity. The most poignant graves are the smallest, those of babies or children. Green-Wood has hundreds of little stones, some no larger than 6 x 12 inches, marked "Our Baby" or "Little Dave." In other spots there is a marker with just an eroded lamb or dead dove, the inscription long gone.

The best-known grave in Green-Wood before the Civil War was, by all accounts, that of Charlotte Canda (p. 61), who died on her 17th birthday, February 3, 1845. She was the only child of merchant Charles Canda and apparently was as intelligent and sensitive as she was rich and beautiful. The night of her death she was returning home from a ball around midnight in a carriage with her father and a friend, Eliza LeBarbier. When the carriage stopped in front of the LeBarbier home on Waverly Place, Charlotte's father took her friend indoors while she remained in the carriage to await his return. The driver was standing in the street, the reins carelessly lying on the ground. Something startled the horses and off they galloped. Charlotte, terrified and alone inside the carriage, was thrown out as it careened around the corner into Broadway. The next moment she lay dying in the muddy street in her rumpled ball gown.

Charlotte Canda had unwittingly designed the tomb where she now rests, at Green Bough and Fern Avenues. A week before her fatal accident, she sketched plans for a tomb for a beloved aunt who had recently died. Instead, her grieving parents used the plan for her own grave. A statue of Charlotte, dressed in her ball gown but covered with a veil-like shroud, stands beneath a Gothic stone canopy of incredibly elaborate ornament. The statue, reported one guidebook of the 1850s, represents the "moment when she is sinking,

garden spot, a great iron-gated tomb overlooking Crescent Water, where ducks and swans glide.

Charlotte Canda, 17, died in a carriage accident. Her statue, clad in a stone likeness of the ball gown she wore when killed, stands in the archway of a tomb (below) she had designed for a deceased aunt.

and about to expire. Clouds seem waiting above to receive her. Above these, shines out a star—the radiant symbol of Immortal Life."

Charlotte Canda's tomb and her sad story struck such a responsive chord in New York and its newspapers that no grave in America, it was said, could compare with it in celebrity. "Seldom on a fair day, is it without a circle of admiring gazers." But tastes in tombs changed away from the statues, obelisks and small mausoleums that were so popular in the 1840s and 1850s. With more money than America had ever seen, the nouveaux riches industrialists of the 1860s and 1870s outspent the pre-Civil War rich in death as well as in life.

The huge Stephen Whitney tomb typifies this later period, which saw the construction of Green-Wood's largest mausoleums. The Whitney tomb is an eight-sided Gothic chapel with stained-glass windows on lofty Ocean Hill surrounded by ivy, rhododendron and ornamental trees. Relatives' graves encircle the chapel, like so many petals on a flower. The grandeur of it and its seeming isolation from the rest of the cemetery still evoke the worldly power of Stephen Whitney, whose $10-to-$15-million fortune, made in

cotton in South Carolina, had made him the second or third richest man in America at his death in 1860.

His funeral at Trinity Church was equally impressive. Six clergymen met the procession at the front door. The eight pallbearers were men of wealth and position, as were the hundreds of mourners in the overflowing church. The body lay in a merino and satin shroud and rested in a coffin of rosewood with silver hardware. Observers agreed that "from its perfectly natural appearance, [Whitney] looked more as if he were enjoying a calm slumber than lying in the cold embrace of death." After the service, which "deeply affected" the mourners, a long procession of black carriages accompanied the body to Green-Wood.

This splendid send-off and tomb notwithstanding, Stephen Whitney had been frugal in life. He refused to move from his comfortable home of 40 years at 7 Bowling Green, although fashion had long since left the Battery area for Fifth Avenue. He was so close-fisted with his family and friends, wrote one acquaintance, that even "his last act was characteristic and fitting. He locked up his checkbook and died."

Death apparently meant something quite different to a Captain Correja, whose tomb evokes anything but the pomp of Stephen Whitney's or the melancholy of Charlotte Canda's. Around 1845 the captain was in Italy and had a statue sculpted of himself clothed in a pea jacket and cap, taking a reading of the sun with a sextant, now missing. Captain Correja brought the statue back home and erected it on his cemetery lot on Woodbine Path near Cedar Dell. He admired the spot and his statue so much that for the next 20 years he regularly took friends there for picnics (p. 59).

Captain Correja's happy eccentricity was not rare in Green-Wood. The cemetery was a park as well as a beautiful resting-place, but more important, it offered a public display for the grief, vanity and wealth that meant so much in those times.

In the years since, death has become a largely taboo subject in youth-oriented America; its celebration, however, still achieves some of the excesses worthy of the century past. Our Victorian forebears might shudder at the thought (or turn over in their graves), but Green-Wood was the predecessor of Los Angeles' extravagant Forest Lawn. Although Green-Wood lacks a pet heaven and statues that talk, it is wrapped in a far more delectable combination of landscape and sculpture where nostalgia reigns supreme.

Sleeping through eternity are three among hundreds of infants and children who have been buried at Green-Wood. Opposite: an angel with weathered face peers solemnly out of a cool framework of leaves.

Gene Stratton-Porter displays nature-study gear in 1924, which was the year in which she died.

By Deborah Dahlke-Scott and Michael Prewitt

A writer's crusade to portray spirit of the Limberlost

Although she was most famous as a best-selling novelist, Gene Stratton-Porter was also a naturalist and photographer of distinction

During the first quarter of this century, Gene Stratton-Porter, now nearly forgotten by succeeding generations of readers, was one of America's most successful, most influential novelists. She drew her inspiration from the wilderness which was, even then, fast being plowed up, paved over and otherwise exploited. She became one of the first to speak publicly for the natural world and its wild creatures, and quickly became a leader in the emerging conservation movement.

The tools for her crusade were her novels. Her first passion had been her nature studies, books which documented her work with birds, moths and wild plants. But she realized early that these studies could never reach the wide audience she hoped to influence. So she wrote fiction.

The formula for a Gene Stratton-Porter novel—a plot woven skillfully through rich, descriptive nature lore—was at first doubted by her publishers. When she submitted her book *Freckles* to Doubleday and Page, her editors told her to "cut the nature stuff" or *Freckles* would never sell. For a while the editors were right. Then, three years after publication, the book caught on. Twenty years later, *Freckles*, the story of a crippled, orphaned young man who finds a home with the people and animals of the Limberlost, had sold nearly two million copies.

Gene Stratton-Porter published 22 books and wrote countless articles for magazines like *Century, Ladies' Home Journal* and *Saturday Evening Post*. Her books were translated into seven languages. *A Girl of the*

All beaks and spiky feathers, this clump of fledgling kingfishers approximating a cluster of thorns was probably taken from habitual riverbank nesting place in order to photograph them clearly.

Limberlost, published in 1909, told the story of a young girl's coming of age in the Limberlost Swamp. It gained such international acclaim that it was the first American book to be translated into Arabic. During the last 17 years of her life, Mrs. Stratton-Porter's books sold at the rate of 1,700 copies per day.

Her characters were often people deeply involved in the natural world. They perceived the woods and the swamps—the usual settings for the novels—just as the novelist herself did. This description of Elnora, the girl of the Limberlost, might easily characterize Gene Stratton-Porter herself:

> "The vast store of learning she had gathered from field and forest was a wealth of attraction no other girl possessed. Her frank, matter-of-fact manner was an inheritance from her mother, but there was something more. Once, as they talked, he thought 'sympathy' was the word to describe it and again 'comprehension.' She seemed to possess a large sense of brotherhood for all human and animate creatures. She spoke to him as if she had known him all her life. She talked to the grosbeak in exactly the same manner, as she laid strawberries and potato bugs on the fence for his family. She did not swerve an inch from her way when a snake slid past her, while the squirrels came down from the trees and took corn from her fingers. . . ."

This same deep respect for the continuum of the natural world is the core of Gene Stratton-Porter's photography. Working in the days before there were high-speed films, miniature cameras and telephoto lenses, Mrs. Stratton-Porter lugged her 40 pounds of camera equipment through snake-infested swamps, up trees and around quicksand to record at close range the life processes of her subjects. Somehow, through a trust nurtured with birds and other wildlife, she got her camera within a few feet of some of the most intimate moments in the lives of wild creatures. This achievement is certainly one of the early high points in the history of nature photography.

Photographs by Gene Stratton-Porter

Arranged on a tree bough, delicate and decorative as a mystical Chinese painting, these immature Eastern

She had gained her heightened awareness and delicately sensitive appreciation of nature from her parents on their Hopewell Farm near Wabash, Indiana. From her father, an ordained minister, she learned to love the beauty of the woods and fields which enmeshed the Stratton family's lives. She realized that birds were precious not only for their song and presence; they were also an integral part of the life chain of the farm, as protectors of fruit and crops from insect pests. Mark Stratton named his daughter protectress of all the birds on the farm, and took Gene with him on his daily circuits inspecting and caring for the land. One of Mrs. Stratton-Porter's early memories was of her father tying a handkerchief around her mouth to quiet her. He then lifted her up to look into the nest of a hummingbird containing two tiny irridescent eggs.

At 23 Gene married Charles Darwin Porter, a druggist, who brought his bride to the natural setting which was later to make her famous: the Limberlost Swamp near Geneva in northeastern Indiana. The Limberlost was still uncharted backcountry when the Porters moved there in 1893 and built a 14-room log home on the swamp's edge. Mrs. Stratton-Porter adopted the Limberlost as her sanctuary.

Beyond her household obligations as a wife in small-town Indiana, Mrs. Stratton-Porter retained the independence that she carried throughout her life. Even her name speaks of this individualism. She characteristically insisted on using her maiden name, joining it to her husband's surname with a hyphen.

At the Limberlost cabin Gene Stratton-Porter first received a 4 x 5 view camera from her husband and daughter for Christmas in 1895. In her little black buggy, loaded with cameras, ropes, ladders and botanical specimens, she became a familiar sight to the country people who lived near the Limberlost.

As a child Mrs. Stratton-Porter had learned how to approach wildlife—especially birds. It was a long and tedious task to make friends with the builders of each of the nests. Approaching with extreme caution, she would imitate the bird's call as best she could. When she had gone so near that the brooding mother began to plaster her feathers against her body in fear, she would pause and allow the mother bird to settle. At first Mrs. Stratton-Porter would content herself with leaving a little of the food that the bird under study liked best. Going back daily to the same spot, she would advance farther, working cautiously toward the nest. In this manner she gradually won the confidence of the mother so completely that the bird would allow her to touch the babies as they brooded.

Gene Stratton-Porter commented about these remarkable encounters: "Few mothers were so careful about the food they feed their children. I gave those nestlings only a bite at a time and never a bite of anything until I watched what it was that the old birds were giving them."

All of this careful watching and waiting required even more patience when she began to record her encounters with a camera. She would locate the nest and set up her camera, covering the intruding equipment with a green cloth or a camouflage of twigs. Often this placement of the camera required hoisting the equipment up ladders or trees to find the closest spot to shoot from. Mrs. Stratton-Porter normally performed this painstaking work alone. But during the busiest

kingbirds convey the feeling for wildlife which was typical of Mrs. Stratton-Porter's photography.

This woolly creature, somewhat formidable even at this age, is what a black vulture is like when young.

season of her fieldwork, she had help in accustoming her subjects to people and photographic equipment. Bob Black, an oilman operating leases beside the Wabash River, spent his spare time locating nests for her. Black would set up a soapbox on stakes to simulate a camera and use his jacket for a lens cover. The birds became so used to his presence that they virtually "sat" for their portraits when the real photographs were taken.

Getting the birds accustomed to the photographer was by no means the only difficulty that Gene Stratton-Porter overcame. The Limberlost was a dense and treacherous swamp, its bogs and swales filled with quicksand, mire and massasauga rattlesnakes (she sometimes carried a revolver as protection against the snakes). To Mrs. Stratton-Porter these obstacles were all part of her communion with the life of the swamp.

The studies made of a black vulture nest show her dedication to portraying the wildlife of the swamp. An oilman working within the swamp came to Mrs Stratton-Porter and told her of the vulture's nest. Realizing the rarity of such a nest and the possibility of photographing a vulture chick, the Porters set off by carriage into the swamp after their prize. Gene Stratton-Porter describes the scene:

Herbalist and naturalist Deborah Dahlke-Scott lives in Lake Tippecanoe, Indiana. Michael Prewitt is a free-lance writer based in Princeton, New Jersey.

"I shielded my camera in my arms, and before we reached the well I thought the conveyance would be torn to pieces. Starting out on foot, through the steaming fetid pools, through swarms of gnats, flies and mosquitoes and poisonous insects, keeping a watch for rattlesnakes, we sank ankle-deep at every step, and logs we thought solid broke beneath us. Our progress was a steady succession of prodding and pulling each other to the surface. Our clothing was wringing wet and exposed parts of our bodies lumpy with bites and stings. My husband found the tree, cleared an opening into the great prostrate log, traversed its unspeakable odors for nearly 40 feet to its farthest recess and brought the baby and egg to the light in his leaf-like hat. We could endure the location only by dipping napkins into deodorant and binding them to our mouths and nostrils. Every third day for almost three months we made this trip. . . ."

In her photographic work the surroundings were usually left undisturbed with the exception of tying back a branch here and there to allow sufficient light for exposure. For a photograph of an oriole's nest, two long painter's ladders were lashed to a telegraph pole. The camera was then fastened to the pole above the ladders, enabling the photographer to focus on the nest hanging in an adjacent tree. For each exposure in the series Mrs. Stratton-Porter had to climb down the ladders to change plates and reset the shutter.

The photographer's work with moths required an equal, if not greater, degree of patience. For more than 12 years she gathered material for her book, *Moths of the Limberlost*. Mrs. Stratton-Porter added greatly to the knowledge of her time about these silently beautiful creatures of the night.

The time and care that Gene Stratton-Porter demanded of herself in her photographic work is evident in her prints. Their quality and crispness was so exceptional that the Eastman Kodak Company sent an executive to the Limberlost cabin to observe her methods of development. Mrs. Stratton-Porter was too embarrassed to let him know that she used the family bathroom for a darkroom, stuffing rags around the doors and windows to make the room totally dark. For developing trays she appropriated the family turkey platters. Instead of confessing these "techniques" to Kodak, the photographer gave credit to her husband, a competent druggist, for his accurate mixing of the finest photographic chemicals money could buy—and to certain special qualities of the local water.

In 1913 the draining of the Limberlost began. Pressure to make the rich swampland productive—and the lure of oil—finally put an end to Mrs. Stratton-Porter's wild laboratory. While searching for a fitting place to continue her work in the wild, Mrs. Stratton-Porter remembered visits to Sylvan Lake, near Rome City, Indiana. In 1914 the Porters moved permanently to the new cabin which they built on 150 acres of woodland along the lake shore. They named their new home, "Wildflower Woods," and set about turning the property into a preserve for birds and wild things.

This new cabin contained a bona fide darkroom where Mrs. Stratton-Porter continued her photographic work. There she sensed the rhythms and pace of the natural world. Calmly and with extreme care, she communicated to her subjects that they had nothing to fear from her. Then, as she wrote, she would take "sufficient time and patience until they became so accustomed to me that they would live out their lives before my lenses."

During her first two years at "Wildflower Woods," Gene Stratton-Porter brought in and set the roots of more than 3,000 trees, shrubs and wildflowers. Many of these plants were rare species, gathered in the last days of Limberlost, and transplanted to help save them from extinction. She gathered the delicate fringed gentians, lady-slipper orchids, wood lilies and other fine wildflowers to accompany cultivated flowers in her formal gardens. Other wildflowers were placed in the woods to be appreciated in their natural settings. An unusually large specimen of a Jack-in-the-Pulpit, transplanted by Mrs. Stratton-Porter 50 years ago, still emerges every spring near the grape arbor. The state of Indiana today maintains both the Limberlost Cabin and the "Wildflower Woods" property at Sylvan Lake as state memorials.

Perhaps some words of her daughter Jeannette best capture the spirit of Gene Stratton-Porter: "In the old days, when we did field work together, I have seen her stop the horse, clamber down from the buggy, and straighten a wild flower, broken by some careless foot, pat the dirt around it, prop it up with a stick or stone, straighten the petals and leaves carefully, and give it a drink from her thermos bottle."

In 1919 Mrs. Stratton-Porter entered on a new career in Hollywood. With her usual energy and independence, she organized and financed her own movie company, then adapted and supervised the production of her story of an orphaned newsboy, *Michael O'Halloran*. She continued to write about and to photograph wildlife, often hiking in the canyons surrounding Los Angeles.

In 1924, still filled with her passion for the wild and the desire to show this world to others, she died, at the age of 61, following an automobile accident.

Caught by frost and believed dead, ruby-throated hummingbird was revived, photographed and freed.

For some younger versions of this commanding bird, an adult belted kingfisher, see photograph, p. 65.

All photographs courtesy Indiana Department of Natural Resources, Division of Museums and Memorials.

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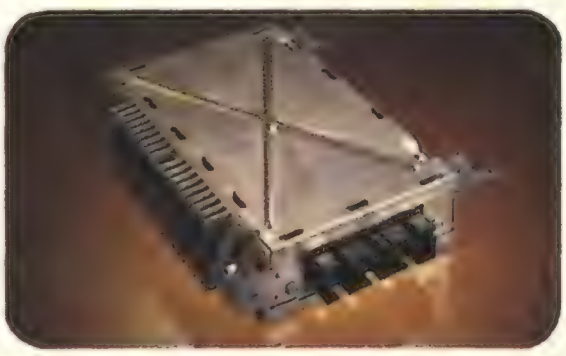

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Seville
BY CADILLAC

By James McCarthy

Ups and downs of Deep Scattering Layers in oceans

Revealed by echo sounders, the mid-depths teem with peripatetic, almost invisible but exotic fish with buoyant swim bladders

More than half a mile down a spark of luminescence dances in the icy water, enticing a passing fish to swim closer. Inches below, a hungry anglerfish suddenly whips back its lure, thrusts out its froglike mouth, and a fish swimming toward a meal becomes one. But the anglerfish makes a mistake, and balloons to the surface: in effect, it falls up.

The anglerfish failed to puncture the swim bladder of its prey. Bubbles of highly compressed gas—that would have given the anglerfish no more discomfort than a slight burp if released—begin to expand as the two fish rise during their struggle. The expansion makes them more buoyant, causing the fish to rise still faster, and soon the captor is captive. The teeth of the anglerfish point backward, and it cannot let go.

The swim bladder enables a fish to remain at a chosen depth without having to swim constantly to keep from rising or falling. The gas bubbles within the bladder, so different in density from the rest of the fish, reflect sound waves, which makes it possible for men with echo sounders to find and track them. Scientists doing just that have been able to map a remarkable daily migration involving uncountable multitudes of organisms that form living strata in all the world's oceans. The strata are known as the Deep Scattering Layers. Clouds of tiny fish travel thousands of feet to the surface waters to feed at night, only to return just as quickly to the depths by the light of day. A dairy cow would have to trot ten miles from barn to pasture and then back to make an equivalent trip. For the fish the trip is even more remarkable: they survive a pressure change of 900 pounds per square inch.

The fish that live in the layers (not all migrate) may be small, but they are highly adapted to their environment, as the illustrations on these pages will attest. Many have large brains, large eyes, strong muscles and heavy skeletons. Some routinely achieve the anatomical feat of swallowing prey larger than themselves; most have light-producing organs.

These creatures were known to ichthyologists long before it was realized that they lived and migrated in layers. They had been caught in nets from H.M.S. *Challenger* in the years 1872-76. And fishermen have taken advantage of nocturnal migrations for untold ages. But the key to making a connection between the two was the swim bladder—and the invention of an instrument that could "see" it.

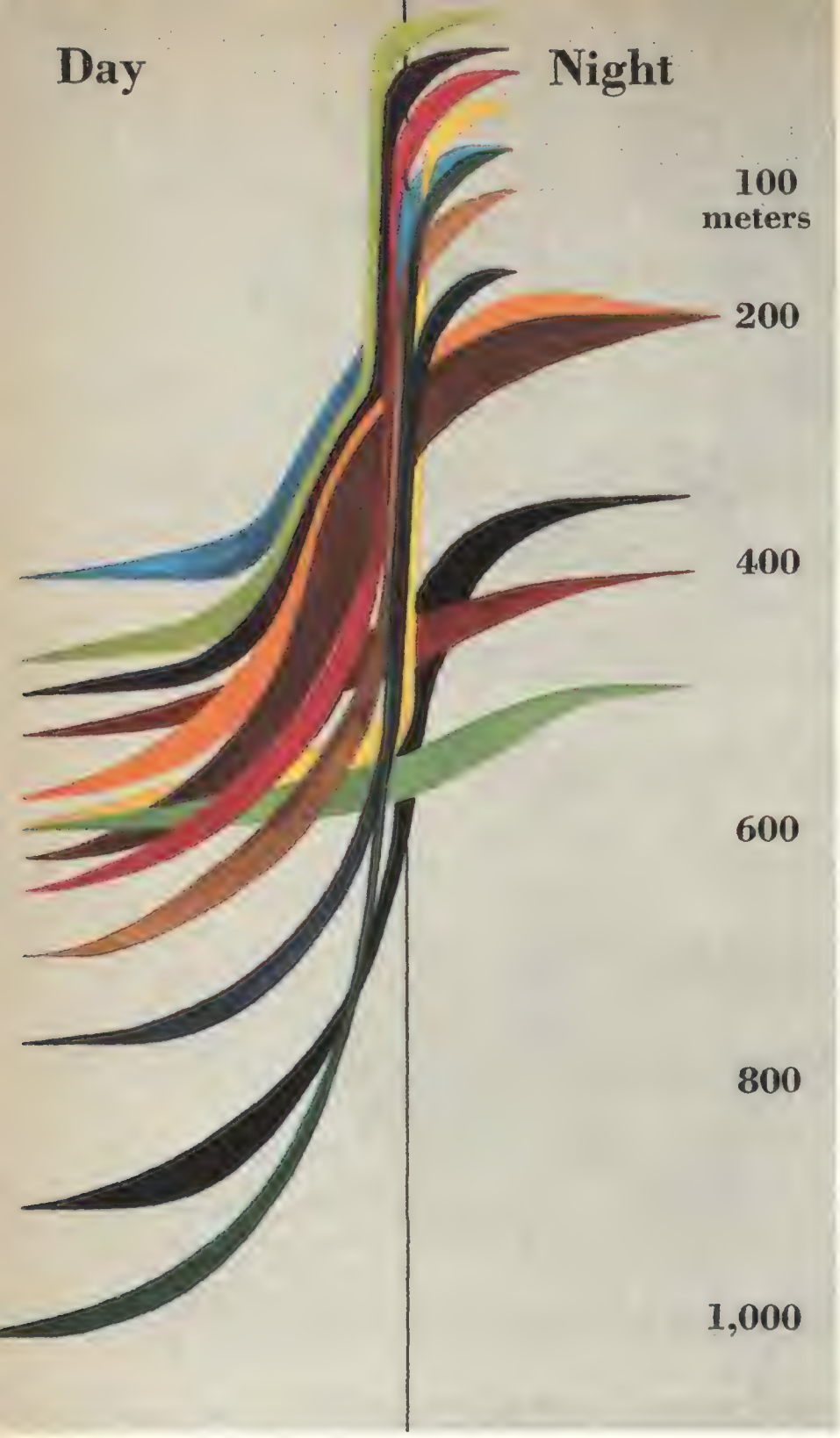
The daytime haunts of the Deep Scattering Layers were first visited in the 1930s by William Beebe and Otis Barton in their steel bathysphere. Descending in the Sargasso Sea, they watched the disappearance first of the warm colors, then the dark blues and violets, and finally the last lingering traces of pale, lifeless gray. Even when their eyes were fully adjusted to the darkness, the water was so totally black at 2,000 feet as to cause Beebe to say it hurt to look out. Moving against the black background were dazzling displays of cool living light. Fish would swim by, blinking yellow, green or blue lights on and off; shrimp would bump into the bathysphere's windows, sending off showers of phosphorescence; and squid would stare back at Beebe and Barton with eyes that seemed to glow like headlights.

Finding fish with sound

With the 1940s came widespread use of echo-ranging sonar, a system that emits a pulse of sound and records its return when it is reflected (physicists say "scattered") by something; the time it takes for the pulse to go out and return indicates the distance (the range) of the object. Originally designed to "see" icebergs after the *Titanic* disaster, sonar was quickly adapted to tell navigators the distance to the bottom and fishermen where schools of fish were. One of the first inadvertent discoveries were layers in the oceans, layers that moved rapidly to the surface at night and descended to the depths again with morning.

Hatchetfish (about three inches long) live in the layers but do not migrate much. This species swims from 300 to 500 meters deep by day, and 200 to 500 at night.

Illustrations by Michael Robinson



Different organisms migrate very different distances in their trips to and from surface waters. Each color on the chart at top indicates a species identified by the code below. Most fish range from one to three inches (squid can be 50 feet); the depths shown here indicate the general average.

- Big Scale: *Melamphaes pumillus*
- Bristlemouth: *Gonostoma elongatum*
- Lanternfish:
  - *Diogenichthys atlanticus*
  - *Lampanyetus pusillus*
  - *Hygophum hygomi*
- Squid: *Decapoda*
- (No common name) *Opisthoproctus soleatus*
- Prawns: *Systellaspis debilis*
- Shrimp: *Sergestes atlanticus*
- Lanternfish: *Lobianchia dofleini*
- Bristlemouth: *Vinciguerria attenuata*
- Bristlemouth: *Pollichthys mauli*
- Lanternfish: *Diaphus mollis*
- Jellyfish: *Siphonophores*
- Big Scale: *Scopelogadus mizolepis*

In most areas the strong daytime layers separate into weaker components during migrations. Some inhabitants of the strong daytime layers appear to be early risers, starting out ahead of the primary layers; others rise with the primary layers but fall off at intermediate depths to form smaller layers or vanish mysteriously. And weakened, frequently patchy, layers at the original depth seem to attest to a community of stay-at-homes.

The predominant species that live in the layers were known, but not much more. The trick was to correlate the findings of the biologists' trawls and the physicists' chart traces, something like optical and radio astronomers locating a star well enough so they can be sure they are looking at the same thing.

In one major study carried on over several years, biologists from the Smithsonian Institution, the University of Rhode Island and the National Marine Fisheries Service joined forces with oceanographers and physicists from the Naval Underwater Systems Center and the Naval Oceanographic Office. They chose a section of the well-studied Sargasso Sea near Bermuda, approximately 60 nautical miles to a side, calling it the Ocean Acre.

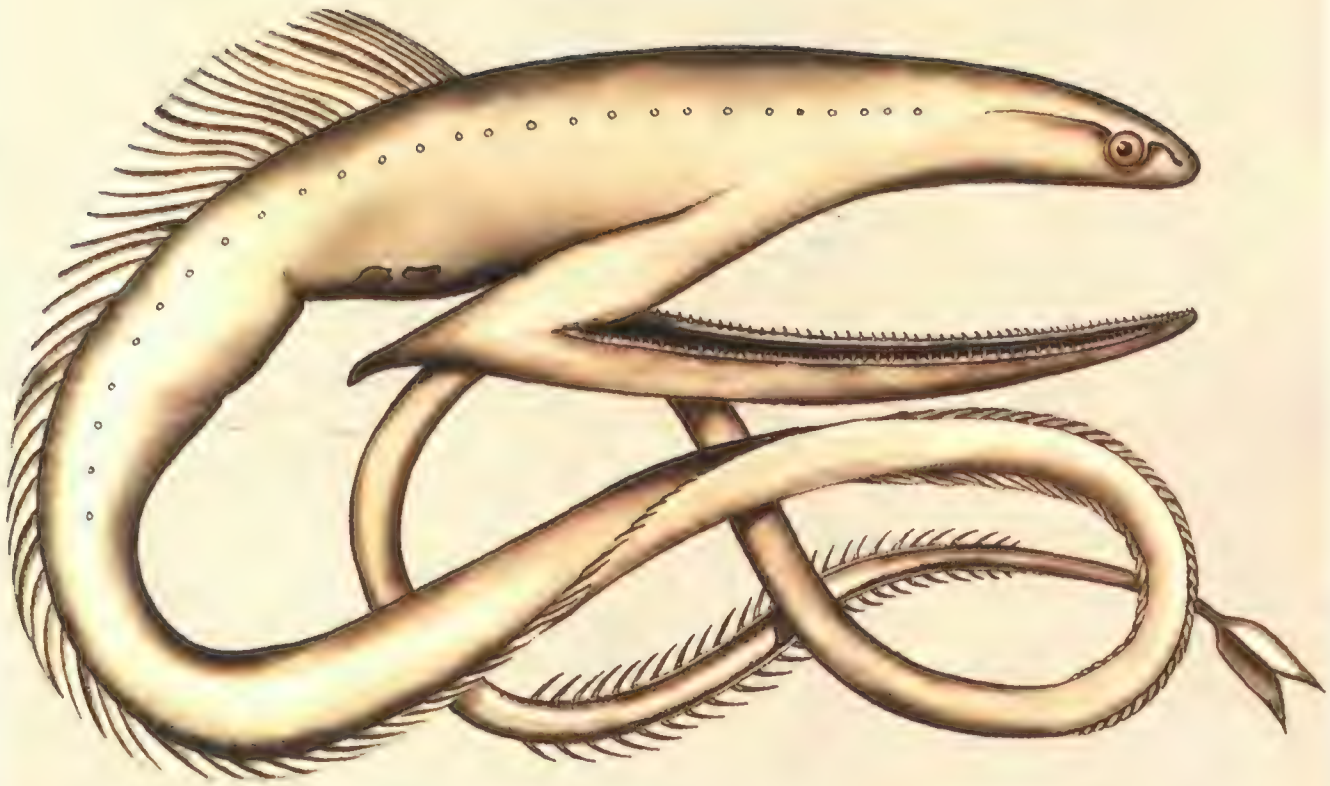
Their approach was simple: the biologists lowered trawl nets to depths above, within and below the scattering layers, while the physicists closely monitored the layers with their echo sounders.

Of the 100,000 or so fish retrieved from the Ocean Acre, about 90 percent belong to four families. Widely dispersed throughout the oceans, they are known as lanternfish, bristlemouths, hatchetfish and bigscales. The names are all descriptive, although the word lanternfish is not an exact guide because most of the fish in the ocean's mid-depths have light-producing organs called photophores. With some exceptions, the fish in these four families possess gas-filled swim bladders, which are visible to echo sounders.

Sound waves are reflected by physical discontinuities: places where the speed of sound suddenly changes. The flesh of a fish is mostly water, and the difference between the speed of sound in water and flesh is slight; therefore little is reflected back. The difference between the speed of sound in water and in the gas of a swim bladder is so great that much of the energy that strikes it is reflected back. With echo sounders, you don't "see" the fish at all; what you see is the swim bladder.

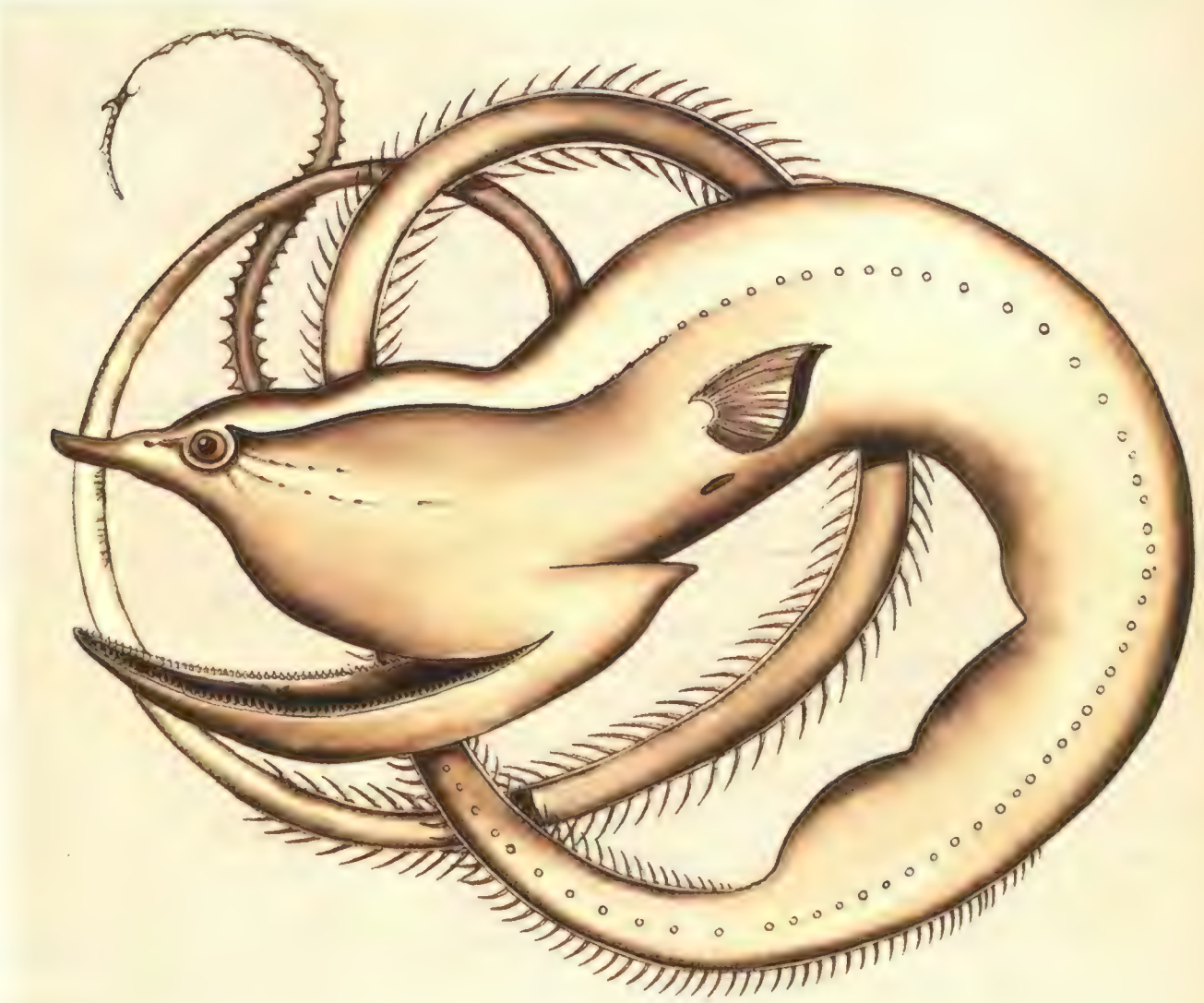
Like a bell or a column of air in an organ pipe, each gas-filled swim bladder has a natural frequency. When the impinging sound waves are at that same frequency, the swim bladder resonates and the reflection is several

James McCarthy is a writer-editor at the Naval Underwater Systems Center in Newport, Rhode Island.



This gulper eel (about four inches long) is found in nets towed 1,000 or more meters deep. It is not a migrator, but preys on organisms in the Deep Scattering Layers.

Another gulper shares the row of light organs along the body and a jaw arrangement that enables it to consume prey larger than it is. This one, too, is very small.



times stronger than otherwise. The target "looks" much bigger than it actually is.

To complicate matters further, the tone at which the swim bladders resonate is determined by water pressure, the size and shape of the swim bladder and the physical constraints within the fish itself. These factors change as the fish moves vertically through different pressures.

All this means that using an echo sounder is anything but cut and dried. The concentration of biological and acoustic studies in the Ocean Acre did provide some guidelines, however. They found that an echo sounder operating at 15,500 cycles per second (about the pitch of the highest note on a violin) recorded the strongest layer during the day, at a depth of 1,300 to 2,000 feet. The same sounder could trace the migrations to the surface waters at night but the strength of the returning signals, while greater than what had been seen during the day, was less than the strength at other frequencies. At night the strongest echo was picked up by a sounder operating at 3,850 cycles per second (about the pitch of the highest note on a tuba). Yet during the day the signal picked up at the lower frequency was insignificant; at this frequency there was, in effect, no such thing as a Deep Scattering Layer.

Migrating downward in the morning, the fish terminate their journeys with remarkable precision at the same depths day after day. Some biologists believe they choose a depth where they can still see, although just barely, and where it is difficult for their predators to see them. The migrators are fairly uniform in size (mostly less than four inches), and so the depths at which they cannot be seen by predators are roughly the same. It seems to be true that within a given family of fish, the larger species are found at greater depths, and within a given species the larger individuals choose deeper water than the smaller individuals.

The role of jellyfish (less than six inches) and squid (one inch to 50 feet) remains a mystery. At lower right

Most of the migrators flee artificial light as well. Knowing that their presence distorts the natural population distribution, observers in minisubmarines usually drift along quietly in darkness, trying occasionally to freeze momentarily an undisturbed community by turning on the spotlights. In describing lanternfish he has isolated in this manner, Ocean Acre

is a composite of several species of bristlemouths, whose role in the layers is better understood.

program manager Charles L. Brown says, "They appear to be hanging motionless in the water when we turn the lights on. Most try to escape from the light by swimming away in short, jerky movements, although some swim up close to the windows."

Swimming away from light, called negative phototaxis, is a strong response in most mid-water fish. Lanternfish and bristlemouths have been seen with their heads in holes in the bottom, trying to swim farther down to escape the submarine lights.

Swimming toward light, called positive phototaxis, is a curious response exhibited by some inhabitants of these dark regions. It's also dangerous. Positive phototaxis enables various anglerfish, dragonfish and viperfish, all equipped with luminous lures, to feed without having to make the trip to the surface.

Anglerfish use a luminous lure dangled over their foreheads. Barbels tipped with photophores hang from the chins of dragonfish. And the viperfish goes even further. Its luminous lure, which it waves from a modified dorsal fin ray, is but part of an arrangement of hundreds of photophores arranged on the roof of its mouth and above its eyes. When its mouth is open and these photophores are visible, a narrow corridor of light is formed, leading the curious directly into the gullet.

Of course, these relationships between ambient light, bioluminescence and survival—based as they are on Man's observations—may or may not actually exist. Penetration of sunlight to the depths of the scattering layers is hard to measure because light from living sources is usually predominant. Calculations based on the light-absorbing properties of ocean water indicate that sunlight does indeed reach these depths, but at a lower intensity than can be detected by human eyes. It seems clear that the migrators do follow a given level of light intensity in their travels to and from the water's surface.

It appears possible that some migrations are not motivated by a need to feed in the surface water at night. Migrating vertically may be the most efficient way of moving horizontally in the oceans. Rising or falling a few hundred feet will usually place the migrators in a current flowing at either a different speed or in a different direction from the one they left. Moving up and down in response to changing light intensities enables migrators to move easily to greener or at least different pastures.

Results from trawls still do not match results from echo sounders. The trawls do bring up the expected organisms from the indicated depths, but in nothing like the quantities suspected.

In the Ocean Acre, adult squid, for example, were seldom caught, even though they were often seen from minisubmarines. The scientists knew that squid—their hard beaks and rudimentary backbones reflect sound—resided in the regions where the layers were recorded, but what were their concentrations, their movements?

Siphonophores, the long, slender relatives of the jellyfish, were also absent from the trawls. These fragile colonies of specialized individuals—some swim, some eat, some sting—are believed to be sound scatterers: one member incorporates a carbon monoxide bubble that buoys the whole colony. But the abundance of siphonophores, like that of the squid, remains a mystery.

The Ocean Acre work added further credence to the belief that the fish with the gas-filled swim bladders are the major components of the Deep Scattering Layers. An essential clue is that their sonar signatures change as they rise and fall in the sea. If squid were the major component, the signal would not change with depth; the hard parts of these organisms would reflect like metal regardless of depth.

There is no doubt that vast areas of the ocean are underlain with layers of organisms, veritable strata of protein. In an increasingly hungry world, are there any implications here for Man?

Apparently not. The echograms from the Deep Scattering Layers are stronger than the signals from schools of commercially valuable fish in coastal waters, and yet for commercial purposes there is nothing there. When an Engel Midwater Trawl (measuring more than 50 feet by 50 feet at the mouth) is towed for an hour in an oceanic scattering layer, only about ten pounds of marine life are captured. This is true even though the net remains open at all times and catches not only specimens from the Deep Scattering Layers but jellyfish and everything else as it passes through the surface layers. The same net catches thousands of pounds per hour on commercial fishing grounds. A secondary problem is that fish like those on these pages do not have the same eye appeal, at least in our culture, as does, say, a brook trout or a striped bass.

The Ocean Acre specimens, now preserved at the Smithsonian, are prized representatives of a marine community that, though thinly scattered in a given area, inhabits vast regions of the world's oceans. Composed of bizarre individuals and characterized by baffling behavior, the Deep Scattering Layers retain enough mystery to titillate almost anyone.

This painting (not in precise scale) ranges from microscopic plankton at top to large predators at bottom. The fish include a viperfish at center, a lanternfish beneath, two bigscales at right, an anglerfish with fanlike tail, and a dragonfish below.

By Mauricio Obregón

Magic of discovery lures astronauts as it did Argonauts

A historian sees Jason, Columbus and moon's conquerors sharing unique achievement: they enlarged boundaries of known territory

Discoverers all: the mythical hero, probing beyond the Aegean; the Renaissance

In a sense, Man gradually fashions his world out of the whole cloth of infinity and creates his universe by discovering it. To discover is not just to bump into something and perhaps forget it. To discover is to rend the veil, to give form to what is discovered, to communicate it and to pass it on. Consequently, discovery requires navigation, some form of cartography and, perhaps most important, poetry, in order to pass on its heritage in an unforgettable way. And discovery, since the time of Homer, has had three dimensions: the Earth, the known sea and, surrounding this little island of land and sea, the infinite ocean, origin and tomb of gods.

To *explore* is simply to fill in the physiognomy of the land and the sea, but to *discover* is to change the scale, to push back the infinite. I think this has been done in our world only three times: first by mythical heroes, second by captains of the Renaissance and third by astronauts of today.

I have given some years to the study of these three quantum jumps; first in archives and libraries, then by following the actual voyages to try to understand them and get close to the heroes and to their worlds.

As I see it, the infinite did not begin to retreat until Jason and his Argonauts pierce the Bosporus, follow the south coast of the Black Sea, and find that it has an end. In the next generation Odysseus pushes the infinite beyond the Mediterranean and out to the roaring Atlantic. And there it remains for the following 2,000 years.

These first discoveries are passed on to us by the most unforgettable of poets, Homer. Nevertheless, the mists lift slowly. In the 8th century B.C., Homer and Hesiod make mention of the Argonauts. In the 5th Pindar first sketches the whole story and the dramatists embellish it. Finally, in the 3rd, Apollonius Rhodius gives us the complete account. The ancients never doubted the truth of the Argonauts' voyages. They believed that science is an accumulation of reasonable myths and that history is an accumulation of memorable legends. And even though we are more skeptical, the archaeologists Schliemann, Evans, Ventris, Chadwick and Blegen have proved to us that Homer told the truth.

So what is the shape of this world in which Man takes his first step toward inventing his own universe? It is a green ring of earth enclosing a known sea, the clear and windy Aegean. Around it, is that unknown and infinite stream of ocean.

In the little island of Earth there is room to spare, and men have enough imagination to fill it with a hierarchy stretching uninterrupted from God to the very last slave. Gods communicate with men by omens, or through apparitions if they want to be more emphatic. Men communicate with the gods by sacrifices

navigator, venturing into the Atlantic;
the spacecraft commander, eyeing the stars.

which are always festive. Women are subordinate, but by no means tame. Justice is always bilateral—a simple matter between those affected and usually without intervention from the state.

The heroes of this world are independent but never alone, for they are always surrounded by nymphs, by the titular deities of rivers, by spirits of all kinds. The means they use for discovery are simple: they have long narrow ships (broad ones are for trade) of about 40 oars plus a steering oar, a square sail probably made of wool, a mast which can be stepped in its box and taken down, and which is supported in position by leather stays.

The ships have anchors of pierced stone and they carry concentrated wine. They also carry grain in sacks and, when they can be caught, goats and other animals. These Mycenaean Argonauts are prudent sailors, preferring to sail during the day, in summer, along the coasts, beaching their boats at night as all good Mediterranean sailors do to this day. Consequently, they make about six knots with the best godsent winds, most often four along the coasts; they manage two knots when rowing against a light wind, speeds which jibe with the sections of voyages that ancient heroes made between known points. It is odd that there are few reproductions left of these ships, but fortunately remains of a contemporary ship have been found off Cape Gelidonya in Turkey, so once again I feel we can prove to ourselves that Homer's descriptions were exact.

How do these ships navigate? First of all, by the sun and stars and especially by what we call "latitude navigation." They know that certain stars pass directly over their home or destination, so they simply get under them, knowing of course whether to sail east or west. More important, they follow winds, which in this world are not simply movements of air. They have a personality, a taste, a smell which makes them unmistakable. There is Boreas in the north, which is the *tramontana* of the Mediterranean. I know the *tramontana* well and it is like a playful tiger. It pushes out a paw, and if you don't act quickly, it flips you into the water. There is Euros in the east, the wind of the Earth's rotation, the constant trade wind, the wind of the discoverers, for discovery almost always goes

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Illustrations by Kathy Kahn

his way. In the south there is Notos, the wind of the passions. This is playful like the sirocco of the Italians, the khamsin from North Africa. Finally there is Zephyros, which is very uncertain.

Into this world strides Jason, a tall and handsome prince dressed in a leopard skin, but I am afraid more prudent than astute or brave, until Medea transforms him for a while into a great hero—Medea, who like any woman worth the name is half girl and half witch. Jason's patron is Hera, goddess of life and survival, and the Argonautica is not his story, but the story of *Argo,* the ship which even speaks for itself. Jason has one great quality: he knows how to pick collaborators who will do the jobs he needs done. He picks Argus the engineer who understands things physical, but he balances him with Orpheus the poet and minstrel. He picks Idmon the seer, who knows his omens, but he also picks Heracles, the noble giant, and therefore a crashing bore.

Pelias, the usurper, sends Jason and his Argonauts to the infinite ocean to fetch the Golden Fleece, a good way to get rid of a possible pretender. I have checked their outward route and have found it identifiable by the landmarks. For example, the poets mention a place where the north wind "divides," and all modern sailing directions tell us that off the Cape of Kerembe, on the coast of Turkey, sailors must be very careful, because the point of land splits the north wind. The Argonauts' return is more legendary, but I will note that it is not altogether impossible to sail up the Danube, to carry a longboat into Lake Constance, to navigate the Rhine and the Aare down to the lakes of Neuchatel and of Geneva, and then the Rhone down to the Mediterranean.

But the important thing is the outward route with which the Argonauts prove that the Black Sea is not infinite, for it ends at the land of the Golden Fleece. Consequently, the infinite must lie beyond the Caucasus. It has been pushed away toward India.

Only a generation later, Odysseus, stocky, redbearded, often naked, voyages in the other direction. Odysseus is a wily hero; his patron is Athena. Women always help him: Circe the sorceress, Calypso the nymph, and Nausicaa, the girl who steals a piece of his heart—and also of mine. Of course the one who is most real is Penelope, for she has human defects, and it is to her that he returns.

In the *Odyssey,* Homer gives us detailed information of winds and stars, and I have used these to do two things: first to check the voyage from the point of view of real navigation, second to try and answer an ancient riddle which, of course, no one will ever finally answer —where did Homer compose his poem? I haven't space to explain my reasoning, but the stars which Homer describes, combined with archaeology and linguistics, place Homer in Cyprus. As to Odysseus' voyage, I have tried to show that it must be extended westward all the way to the Balearics and Gibraltar, southward to the bottom of the Gulf of Sirte, and eastward to Cyprus.

The result, then, of Odysseus' voyage is that the infinite now lies beyond the Pillars of Hercules. The whole Mediterranean is now included in the known

Ancient heroes, such as Jason, voyaged amid nymphs and deities and spirits of all kinds. Renaissance captains like Magellan, equipped with quadrant and astrolabe, explored the globe.

sea, surrounded by land all the way from the Caucasus to Gibraltar. This world is explored during many centuries by Phoenicians, Romans, Vikings and by Arabs, who even peer into the Atlantic and Indian oceans. But in fact the scale of Man's cosmology does not change until almost 2,000 years later, when Henry the Navigator creates the first organization for exploration. Building on Henry's results, Christopher Columbus and Vasco da Gama open the Atlantic and the Indian Ocean.

Columbus is certainly the greatest instinctive navigator of all time, but he has two complexes. He wishes to be known as a scientist, which he is not, and he wishes to be classed as an aristocrat, which he is not. But if one has no complexes, one has no angels either.

In reality he is trying to circumnavigate the globe, for he knows how Marco Polo has reached the Far East, and he thinks he will reach the same destination the other way. But in his way lies a continent whose presence has been felt since ancient times: the new Atlantis, America. And in his fourth voyage we see him sailing down the coast of the Isthmus of Panama (and incidentally, I believe, going much farther along this part of the continent than was thought), and he seems to hear the roar of the ocean on the other side. He finds no strait, so his circumnavigation must wait.

Da Gama, on the other hand, is a great and rigid commander, heir to the navigational science of the Portuguese. He knows his winds, and he plans his great voyage to India so that he almost crosses the Atlantic first, in order to catch the proper wind to round the African Cape.

After these men, the infinite lies beyond America and beyond India, but one-third of the globe is still dark, and it is to be lighted one generation later.

The world of the high Renaissance is a world full of races; it is a world that Man begins to measure, to possess, to mold passionately into forms, words, colors and logical constructions. It is the world of Michelangelo and of Titian; of Charles V, Francis I and Suleiman the Magnificent; of Luther and Erasmus (and of More and Loyola).

Means of travel have also changed a great deal since the Greeks: now we have caravels, thanks to the Portuguese, and *naos* of up to more than 100 tons which can carry supplies for many months; we have the lateen sail which can get relatively close to the wind and which, like much of civilization, has reached us from the East through the Arabs; we have the sun compass with its gnomon, the shadow of which will tell us the correction, and we have instruments to measure the sun and the stars which are still basic—the quadrant, the astrolabe and the cross-staff—so we know our latitude quite accurately. Incidentally, we also have the lead with which we can measure depth, and which, with tallow on it, can sample the bottom, a simple device which can tell us a good deal of our whereabouts along a coast.

Spit in water to judge speed

Oddly enough we have no log to measure speed, so we must go to the prow and spit into the water, then walk down the length of the ship counting the seconds (do not laugh—I have tried it, and it works). Latitude as I say is very good, but longitude is poor, for the mechanical clock which already exists won't be used on board until the middle of the 18th century. So time is measured with an hourglass, and the ship's boy must turn it over every half hour, so that if he is seasick, lazy or forgets, enormous errors creep in. This lack of exact longitude is what really makes possible the mystery that still remains.

Into this world walks Magellan, a short, black-bearded, popeyed Portuguese from Trás-os-Montes, a man of the mountains and therefore of very few words. He is of the small nobility, and soon moves to Oporto where he learns to know the sea. Then he goes to the Spice Islands for Don Manuel of Portugal; Europe is addicted not only to gold, but also to the spices which

conserve food, which make it palatable, which cure all ills and which are even supposed to be aphrodisiacs. Magellan returns from these Moluccas with an idea; why not voyage to these all-important islands going the other way?

Don Manuel won't have it, so Magellan goes to Don Carlos I of Spain, soon to become Charles V, Holy Roman Emperor. His argument is that since longitude is inexact, the Line of Demarcation (which divides the Portuguese hemisphere from the Spanish) projected onto the other side of the world, will give the Spice Islands to the Spaniards. And he is not far wrong. Don Carlos immediately buys the idea. After surviving the mutiny and the Patagonian winter, Magellan discovers his Strait, so that America is no longer a barrier. Then he crosses the immense Pacific Ocean.

Magellan's pride kills him in Mactan in the Philippines; pride so often seems to be the Achilles heel of great men. He wants to prove that with a few Spaniards he can dominate a thousand natives, and so loses his life. Juan Sebastián de Elcano, a tough Basque, completes the three-year voyage, circumnavigating the world. Only one of five ships returns to Spain, and only 18 out of almost 300 men.

All the seas are now one, and there is no infinite ocean. Renaissance man is the center of the universe. The church is splendid, God and his court are real but distant, because God is perfect. The gods of the Greeks were close, because they were as imperfect as men themselves.

This is the world then, that we inherit, but we inherit it practically exhausted. Fortunately the air is also a sea, and at the end of the 18th century the Montgolfiers begin to explore it; then in the 20th the Wrights, Lindbergh and Post begin to fly all over it; and in our own time, though it is already almost a generation ago, Yuri Gargarin makes the first orbit. This completes the exploration of a globe which is now teeming and so noisy that one can no longer hear either men or gods. Communication is excessive—and cold, as cold as a television tube. In a way it is a lonely world because it is no longer possible to be alone.

Fortunately we have marvelous tools: archaeology, linguistics and history give us new perspectives, and our means of navigation are superb. Instead of ships, balloons and airplanes, we have space capsules which, by the way, I have heard the Russian cosmonauts call by the beautiful name *caravela*. We have harnessed energy so that we can count on almost unlimited propulsion, and we navigate by the inertial platform which, combined with a computer, simply calculates how much we have moved in any direction, and tells us exactly where we are at any time. But the sun and the stars are still basic, and I have heard the astronauts use them. The deep space voyages are now in the hands not of a hero but of an organization, and they seem to many people automatic, and perhaps even useless.

They are neither. I have followed the space flights

Today's astronaut, facing the stars, inherits the aura of early aeronauts and, before them,

and known of very serious emergencies and have heard men working in space as alone as Odysseus when he had to abandon his ship, or as alone as Magellan at San Julián de Patagonia. In my view, these voyages are not useless. They have many important side products and have given us ways of measuring the performance of our bodies at a distance (medically most important), and to learn to use the sun's energy just about when other sources are running dry. Perhaps most important, spacecraft are now covering the whole world, asking no one's permission, studying vegetation and geology and photographing at will, so that we do finally have one world, without meaningful frontiers.

The men who carry out this new discovery seem, perhaps, like cowboys on television. They are not. Both the Russian and the American astronauts that I know are serious and insatiably curious technical men who speak a new kind of poetry, the terse and specific language of science.

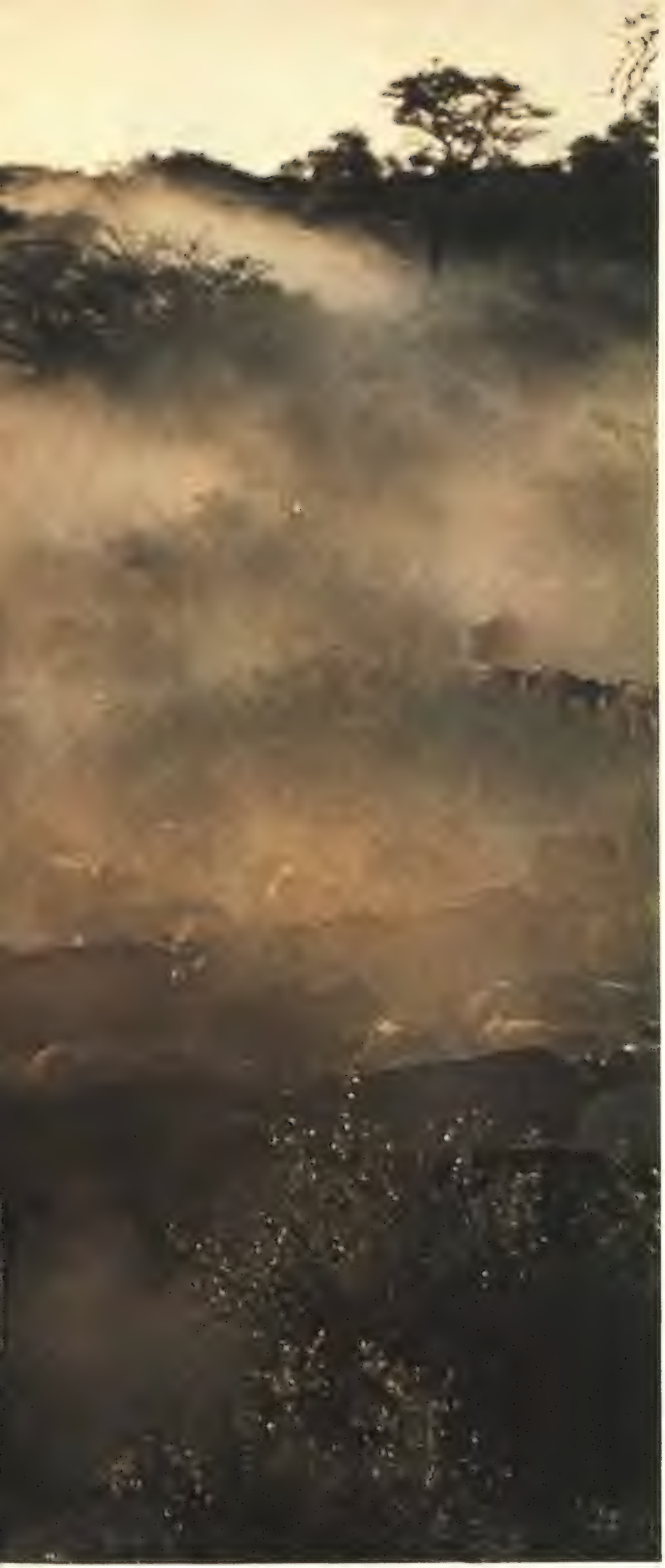
But to me the most significant contribution of the Space Age is one single photograph, the photograph that all have seen: the little blue Earth, floating alone, in deep infinity. This photograph tells us that we are back where we started: on a small island of land and sea, which we must love and conserve. Fortunately we have the means, for we can study it from the outside.

Many of us face an Infinite infinitely empty. Reality without God loses its stuff, just as speed far from the Earth loses its thrill. So I think we have reached a stage where we must repeople our universe with reasonable myths and memorable legends, so that science and history can keep their continuity. And in order to pass on so much knowledge, we have to continue to form out of the language of science a real poetry that our children will not forget.

I do not know whether, to do this, we will have to return to the clarity of the windy Aegean, or to the noble madness of La Mancha. But if we are to remain civilized in the fact of the new Infinite, we may well have to reach again for the fire that Prometheus stole from the gods. And despite the noisy confusion of our world, I think our youth is reaching for it now.

of Apollo's chariot, of Daedalus and Icarus,
of wing-heeled Hermes, messenger of the gods,
of Pegasus, the flying steed, and of griffins
and dragons and even the angels themselves.

Milling beef animals raise foglike clouds
of dust as trekkers round them up,



400 to 500 at a time, at Ghanzi—jumping-off place for the long walk down to Lobatse.

Text and photographs by John Reader

A cattle trek across the wild, wide Kalahari

Thirst is not the only hazard that Bushman herders survive as some still drive their animals 400 miles across Botswana's desert

One hundred thousand square miles of desert, the Kalahari, covers nearly half of Africa's landlocked Republic of Botswana. The nation is the size of France, but aridity confines most of its 650,000 people and their cattle—which outnumber them three to one—to moister lands to the north and east of the desert. In March and April, four or five inches of rain usually falls on the Kalahari, and within days the dun-colored tableland sprouts a thick carpet of green grass.

Traditionally, the rains were a signal to ranchers in the north to assemble their herds of beef cattle at Ghanzi for a four-week, 400-mile trek southeast across the desert to Lobatse where the Botswana Meat Commission plant now stands, on the near side of the Transvaal border. Nowadays there is a road of sorts and most of the cattle ride to the abattoir in trucks. But some still make the journey on foot in scenes reminiscent of old-style American cattle drives. With differences: at times the trekkers meet up with friendly Bushmen, and at times they must fend off lions, hyenas and wild dogs that track the herds.

This is not a desert of rolling dunes like the Arabian Empty Quarter, nor is it sparsely dotted with natural wells and oases like the Sahara. For the most part the Kalahari is a vast expanse of undulating sandy earth, well covered with grass, acacia thornbush and thin savannah woodland. When the sun is low in the late afternoon, and mile upon mile of grass gleams a gentle golden yellow, the desert has a unique beauty—like that of a well-ordered parkland—and one might forget

that it is an uncompromising environment where "civilized" man cannot survive.

The name "Kalahari" is a corruption of "Kgalagadi," a word which, I am told, means "mother of thirst." It is an apt title, for there is not one natural well nor a single drop of permanent surface water to be found in the whole expanse of the Kalahari. Even so, the Bushmen refer to the desert as "txum," which translates as "home"; and indeed they are the only people who have been able to survive there.

The Bushmen were among the original inhabitants of southern Africa. Gentle tribes of hunters and gatherers, they lived in small bands whose survival depended upon a great deal of cooperation among band members. Their social customs excluded as far as possible anything that might cause antagonism; for instance, there was no individual ownership of property. The Bushmen cherished peace, and did not compete in circumstances where they knew they could not win, so when the whites landed on the southern shores with their guns, and the Bantu tribes moved in from the north with their cattle, the Bushmen retreated. They continued to retreat until finally they were confined to the most inhospitable place of all, the heart of the desert. There they found peace again, because no one else wanted the Kalahari.

Today there are perhaps 30,000 Bushmen in Botswana, but most have given up their traditional existence and now live among the rest of the population. Only about 1,000 are left in the Kalahari. They live by hunting with bow and arrow, the spear and the snare, and by collecting wild plants, insects, rodents and birds. Each band has mutually recognized rights of use over its areas of land and is careful not to cross the land of another band without permission. Often during the dry season they are totally dependent for water upon moisture-bearing roots and succulent plants. They drink the blood and the liquid in the stomach contents of the animals they kill.

The developing civilization of Africa forced the Bushmen into their ultimate and harshest retreat, and now the 20th century is enticing them out again—to oblivion. A steady stream of Bushmen leaves the Kalahari for the easier life of towns and villages. They are mostly the young people, who soon learn about jobs and money and rarely go back to the desert. Of course they have every right to share the benefits of booming Botswana, but there is nothing in the Bushman tradition or learning to help them deal with the strife and competitiveness of a developing nation. Inevitably, they become its bottom class.

The first white people to venture into the Kalahari were of the same stock as the Voortrekkers, those early Dutch Boers who had moved north from Cape Colony to escape the flood of British settlers. By 1857 they had settled the Transvaal and the Orange Free State and some were feeling further pangs of *trekgees*. Wrote one, "A drifting spirit was in our hearts, and we ourselves could not understand. We just sold our farms and set out northwest to find a new home." Northwest took them across the worst of the Kalahari and into some appalling disasters. One party lost more than half its 500 men, women and children, together with most of their 7,000 cattle, 500 horses and 1,000 sheep. At the end of the crossing the survivors were reduced

A trek leader, Dawid van Heerden, counts his herd into wayside desert kraal for the night.

A woman of a Bushman band digs deep, following a spindly vine down to its fleshy root, a vital source of dry-season moisture. She will take but little, remembering the spot for future use.

In the desert, even the shells of ostrich eggs find a use, as Bushman's water containers.

A Kalahari lioness looks for strays. Hyenas and wild dog packs also trail the herds.

Kalahari cattle drive

to drinking sheep's blood and squeezing moisture from the contents of the dead cows' stomachs.

Tragedies notwithstanding, over the next 20 years the thirstland trekkers (as they became known) traveled twice as far as the original Voortrekkers, crossing what is now South West Africa, southern Angola and northwest Botswana, building their houses beside the water of remote springs and founding settlements. These later were named after local waterholes, such as Reitfontein, Grootfontein, Sesfontein, Sadfontein, Kalkfontein. There were many others; Ghanzi was one.

Ghanzi today is little more than a shop, a bar, a church and some rough-and-ready buildings, on the edge of the desert not far from Botswana's border with South West Africa. In the black-powered Africa of 1976, Ghanzi is also something of an anachronism. For here, in an independent black state, is a white, Afrikaans-speaking community of van Rensburgs, Malans, du Plessis and van Heerdens, to name a few. Most are descendants of those early thirstland trekkers. They suffer from no reverse *apartheid,* for the government believes in nonracial democracy. Besides, men capable of raising fine cattle under difficult conditions are an asset to the country.

Men have been driving cattle across the Kalahari for 100 years. Ghanzi old-timer Theunis Kotze tells of treks in the early years of this century, when he drove 300 cattle across with the help of only two African herders. On one memorable occasion his herd of 1,000 head was without water for six days; when they finally smelled water on the seventh, 17 animals died in the stampede to the waterhole.

Boreholes sunk at irregular intervals by the former British colonial administration, and more holes sunk by the republic, make the way a little easier for today's cattle, but even so the route is one of the world's longest and toughest treks in regular use. Seasonal grass is plentiful, and cattle that cross early will even improve in condition during the trek—if they are driven carefully. The 400 miles from Ghanzi to Lobatse could be covered in 20 days, but the best drovers know that speed is a minor consideration, and so they work to achieve a delicate balance between allowing the cattle time to graze and getting them to the next borehole before they suffer too much from thirst. Until a few years ago there were only nine watering points. In a four-week crossing the cattle were subjected to several "three-day thirsts," when they went two nights and three days without water. Once at the borehole, a herd spent four or five easy days grazing in the vicinity before making a controlled dash to the next.

Bushmen who have left the desert make up the majority of the 20-man work force on most drives; some are mounted on horses, but the rest cover the entire 400 miles on foot. They receive about $22 for the trip, plus their food and a new pair of overalls.

Outsmarting the Kalahari lions

Apart from the problems of allowing the cattle enough grazing and getting them to water on time, the foot-trekkers must contend with predators. One of these, the Kalahari lion, has evolved the ability to survive for long periods without drinking, deriving its necessary liquid intake from the body fluids of the animals it kills. For some reason it took the lions some time to develop a taste for beef, but after they did drovers often encountered the big cats tracking the fringes of herds, waiting to catch a lone straggler.

Each evening a kraal was built for the cattle. Dozens of acacia bushes were felled and their thorny branches stacked in a ring to make a strong enclosure. Once the cattle were inside, huge fires were built around the kraal, and these again were encircled by a ring of lanterns. The men slept in the sand beside the fires; throughout the night some kept the fires blazing and cracked their whips. The lions were feared not so much for the cattle they might kill, as for the panic stampede they would cause should one manage to enter the kraal during the night.

And so it goes on; even into the last quarter of the 20th century some men still have to cross a desert and deal with the problems of food, water and predation to get their produce to market. And the Kalahari trek is more important, to some ranchers, than it ever was. Rising fuel costs have made trucking cattle prohibitively expensive for some small-time ranchers and the route has become a veritable lifeline for them.

John Reader, a Nairobi-based journalist, wrote about Kenya's overpopulation of elephants in the July 1972 SMITHSONIAN.

When a herd reaches a borehole, cattle are let in a few at a time, lest they stampede.

Thirsty cattle surround borehole. Herders soon shoo them away, to make room for others.

When Bechuanaland was reborn as the independent Republic of Botswana in 1966, its future seemed as bleak as its countryside. The former British protectorate was suffering from five years of drought, an impoverished government and a tottering subsistence economy. For the first three years of independence Britain had to subsidize nearly half of Botswana's deficit-ridden budget. Since then, however, the country has experienced a dramatic change of fortune. Diamonds, nickel, copper and gigantic coal reserves have been discovered. There is no need for subsidies now. Since 1970 solid surpluses have become the rule.

Today, only a little more than a decade after independence, it is fashionable to speak of Botswana as the "Cinderella" of Africa.

This year the Anglo-American Corporation expects its Orapa mine to produce three million carats of diamonds worth about $35 million. Orapa is the second largest diamond pipe in the world (after the Williamson pipe in Tanzania).

At Selebi-Pikwe in the southeast of the country, production of nickel and copper has begun following foreign investment to the tune of $200 million.

Botswana's proven coal reserves exceed 400 billion tons. The Morupule field (which is already supplying an annual 100,000 tons to the Selebi-Pikwe mines) is expected to produce 600,000 tons a year by 1978.

Development spending in 1972 was $17.5 million; this year it will be more than $65 million, and overseas aid schemes are under way worth $500 million. It is a heartening story of good fortune all too rare in Africa.

Developing Botswana's mineral potential has required an enormous amount of foreign capital. The country has a 60 percent stake in the mining ventures, and in addition taxes the profits, but even so it will be some years before the benefits affect the standard of living of the rural population. Soon they will see schools, hospitals, roads and electricity; money in the pocket will take a little longer. So it is perhaps fitting and fortunate that the country's basic way of life—ranching beef cattle—should have bloomed during the past few years into a cash industry capable of spreading money through all levels of Botswana society.

The Botswana Meat Commission was established in 1966 to control the production and processing of meat long before the world's current protein supply crisis developed and, as a result, Botswana's ranchers were poised to take full advantage of the global beef shortage and soaring prices. In 1973 the plant at Lobatse processed a record 210,000 carcasses and exported beef worth $36 million to Britain, Switzerland, Austria, South Africa, Hong Kong and elsewhere.

It may seem ironic that cattle remains the country's largest foreign exchange earner despite all the diamonds, copper, nickel and coal; but as with minerals, the potential was always there and, once the meat commission began to manifest the necessary technical skills and marketing procedures, the old ranching traditions were bound to pay off. Fattening cattle in arid, drought-prone regions is not easy; getting them to the packing plant is even harder, but each year more and more cattle converge on Lobatse, by both old and new means of transport, to prove that it can be done.

Heading for their last roundup, cattle enter BMC yards at Lobatse after successfully traversing the desert on foot. Opposite, they get a last good drink outside the abattoir.

This little carving, like its neighbor (below), celebrates an earthly craft in a churchly atmosphere.

By Dorothy and Henry Kraus

Naughty notions in holy places

One of only two painted misericords among thousands in France, a barrel maker enjoys fruits of his labor.

Generally ignored by medieval church historians and art authorities, a rollicking form of wood sculpture comes to light

In the heart of many European medieval churches there is an amazingly earthy art concealed beneath the choir stall seats, so free in expression that at times it embraces the Rabelaisian. It is a source of embarrassment to many clerics. "This sculpture has no place in a church," they say. They would prefer, one feels, that the carvings remain unnoticed. Therein lies the secret, no doubt, of these remarkable works having been allowed to fall into oblivion over centuries, hidden under the permanently turned down seats, unknown even to most art lovers and experts. Our own interest was awakened when we saw a reference to "misericords" in a book. One day we set out on our own to see examples and for five years did little else.

How did this curious art get into the church choir in the first place? By oversight? Hardly. Medieval clerics were not as unworldly as all that. Actually, the art can be traced back to a rigid sacerdotal rule combined with an indulgence, which in early ecclesiastical parlance was termed *misericordia,* that is, mercy. The way this allowance resulted in underseat carvings was typically labyrinthine.

Clerics were permitted to remain seated or kneeling during most regular services. But for chanting the Divine Office the standing posture was prescribed, the hinged seats being kept raised to insure compliance. These rites went on interminably throughout the day—and night. Matins, lauds, prime, tierce, sext . . . the many hours of required standing were

Dorothy and Henry Kraus are authors of The Hidden World of Misericords, *which was published recently by Braziller.*

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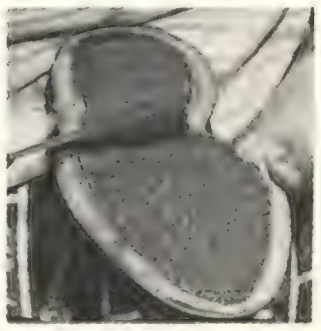

Finely ground cork cushions and insulates.

The other part of its personality is tough and rugged. The small dueling scars you'll notice on your Vikings weren't put there by factory workers. The boar did it himself during the course of a rough-housing career in some mighty rugged country. In the process, he created a hide that's just about as tough as they come.

Soft leather and genuine crepe rubber combine in a different kind of shoe.

The soft boarhide gently molds to the shape of your foot, and its deep porous texture lets it "breathe" for comfort. Inside, you'll discover that Vikings are completely lined with glove-soft leather. The long wearing sole and heel are fashioned from natural crepe rubber. It puts extra bounce into your step and absorbs those tiring shocks and jars. It won't peel away like artificial rubber soles, and Vikings can be resoled if the need ever arises.

Between the sole and a special non-curl leather insole is a layer of finely ground cork. It provides a unique form-fitting effect, gives you extra cushioning, and helps insulate against heat, cold, and damp. And as with all Allen Edmonds shoes, Vikings are put together without the use of nails. This gives you a durable, single unit that rolls, bends, and flexes with every movement of your foot.

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Viking 2028																
	6	½	7	½	8	½	9	½	10	½	11	½	12	½	13	14	15
AAA							x	x	x	x	x	x	x	x	x	x	x
AA							x	x	x	x	x	x	x	x	x	x	x
A					x	x	x	x	x	x	x	x	x	x	x	x	x
B				x	x	x	x	x	x	x	x	x	x	x	x	x	x
C	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
D	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
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EE																	
EEE			x	x	x	x	x	x	x	x	x	x	x	x	x		

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extremely distressing to the old and feeble.

Late in the 11th century, an innovation appeared in the form of a hidden ledge that came into use when the seat was raised. On this jutting console the cleric could rest while ostensibly standing. Its adoption was rapid throughout Western Europe, the object eventually taking the name of the indulgence: *misericord.*

To give the sitting ledge sufficient strength it was carved out of the same block as the seat, with a mass of wood left beneath it for support. Its surface tempted the medieval carver, whose *horror vacui* was such that he quite simply could not leave blank spaces blank. Starting with simple floral patterns, he passed on to crude monsters, primitive animals or human heads. As his technique was perfected, his iconography steadily expanded.

Curious art in the church choir

Only one type of subject continued to be shunned: the scriptural. Our five-year canvass of thousands of misericords revealed the use of scriptural themes in only three percent of the carvings. The reason seems clear enough. Since use of the underseat ledge brought the sitter's buttocks in contact with the carving beneath, it would have been irreverent to put the form of Jesus, Mary, Peter or Paul there.

By this fateful circumstance, the field was opened wide to secular topics. As a result, too, the task of originating subject matter was taken out of the hands of the priests and given to artists, who were far more expert in the everyday world.

Journeymen woodcarvers got their training doing decorative work on furniture and cornices. Unschooled, often unlettered, they picked up their subjects from haphazard sources: legends, proverbs, popular illustrated books. But chiefly they copied nature and life about them. It was the life they knew, the life they saw, the life they lived that the carvers portrayed.

The range of subjects that they adapted is certainly the most extensive known to church art: work in town and in the field, domestic scenes, eating, drinking, sleeping, love and sex, amusements, games, contests and swordplay, music, dancing, animal life and drolleries, wise sayings and foolish acts, monsters and diableries, plants and flowers.

At times churchmen mutilated the most

A glutton, a woman birching her son and a miner are among variety of subjects which attracted artisans.

To give you an idea of diamond values, the piece shown is available for about $1400.
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A great camera can be a great investment.

Carvers often chose surprisingly gamy subjects, as here, for their work.

embarrassing details. At Paris' Church of Saint-Gervais, misericords showing an apothecary administering a clyster to a woman and a couple sharing a bath were hacked almost beyond recognition. A more selective effacement was used at another church with a group of tumblers who were shown exposing their genitals.

Often nothing but total obliteration would satisfy the iconoclasts. In 1787, for example, the Archbishop of Paris issued a decree to the chapter of Saint-Martin-de-Champeaux calling for the immediate destruction of "the bizarre and singular figures" in their stalls. But the canons decided on a disguising measure instead, painting their fascinating misericords a horrid ocher color. This expedient somehow saved them and they can still be enjoyed today, cleansed now of their unsightly camouflage.

The voluntary despoliation of large numbers of old misericords during this period was also a result of altered taste, as we can judge by the repeated angels' heads and other accretions that were substituted for the earlier sculpture.

Misericords often reveal homely details of local history. The carvings at Saint-Gervais, the only set left in a Paris church, include a wine wholesaler, a Seine boatman, a master shoemaker and an architect. The parish records show that all these trades were once practiced in the neighborhood. Their guilds were active in the church, founding chapels and contributing funds for its rebuilding in the 16th century, when the choir stalls with their misericords were being carved.

A LUXURY SEDAN BASED ON THE BELIEF THAT ALL OF THE RICH ARE NOT IDLE.

Since the time of the Caesars, the inspiration for the carriages of the gentry has been the blatant, unbridled, unabashed pursuit of opulence.

Opulence often to the exclusion of all else: performance, efficiency, engineering intelligence.

50-70 mph, 5.9 seconds. "...high-speed passing acceleration borders on the brilliant," the editors of Motor Trend magazine.

Even today one sees occasional evidence of this misguided sense of priorities—this basic misunderstanding of what it is that constitutes true luxury.

Opera windows that obscure vision. Mammoth engines pulling mammoth cars. Interiors fashioned more along the lines of a Persian Pleasure Palace than a serious driving machine. Cars made primarily for sitting.

At the Bavarian Motor Works it has always been our contention that a car ought to be made primarily for driving. That when all is said and done, extraordinary performance is the only thing that makes an expensive car worth the money.

And, in this age of automotive enlightenment, we believe our time has come.

POWER TO SATISFY EVEN THE MOST POWER HUNGRY.

Beneath the hood of the BMW 530i is a singularly responsive 3-liter, fuel-injected engine that has been called by no less an authority than Road & Track magazine "...the most refined in-line six in the world."

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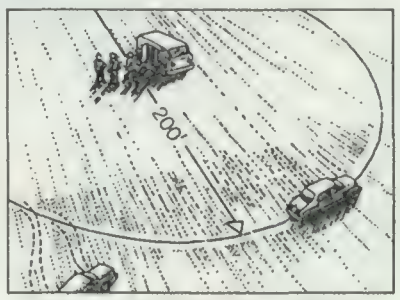
The 700 Ft. Slalom Test, designed by Road & Track magazine to measure lane changing capabilities. BMW ran the course at a remarkable 51.6 mph.

THE MAN WHO CONTROLS CORPORATIONS OUGHT TO BE ABLE TO CONTROL HIS OWN CAR.

If you're accustomed to the leaning and swaying one experiences in the conventional luxury sedan, you will thoroughly appreciate the uncanny road holding capabilities of the BMW 530i.

Road holding—driver control—is largely a function of a car's suspension system.

And, to be a bit blunt, BMW gives you a superior suspension system. Instead of the "solid-rear-axle" systems found in all domestic—and many foreign—sedans, the BMW suspension is fully independent on all four wheels.

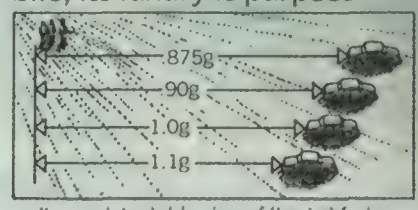


Results of the Motor Trend "200 Ft. Circle Test" clearly illustrate the superior road holding abilities of the BMW. At .82g BMW was still on the road, other makes were not.

And this, combined with a multi-jointed rear axle, allows each wheel to adapt itself independently to every driving and road condition—with a smoothness and precision that will spoil you for any other car.

A DECIDED LACK OF OPERA WINDOW OPULENCE.

While inside, the BMW 530i features as long a list of luxury items as one could sanely require of an automobile, its luxury is purpose-



"...no detectable sign of (brake) fade. The more and harder they're used, the stronger they seem to get." The editors of Motor Trend sum up the results of their rigorous multiple-stop brake test.

fully engineered to perform a very significant function: help prevent driver fatigue.

All seats have an orthopedically molded shape. Individual seats are adjustable forward and back—with variable-angle seat back and cushion supports.

All instruments are clearly visible; all controls are readily accessible.

For many serious drivers in all parts of the world, the BMW 530i has redefined the meaning of the word "luxury" to encompass something more than a thin veneer of brocade and chrome.

If you'd care to judge for yourself, we urge you to phone your BMW dealer and arrange to take a thorough test drive.

The ultimate driving machine.

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Continued from page 98

Carved from hardwoods such as oak and chestnut to withstand strain put on them, misericords ranged in subject from the active to more intimate views.

Continued on page 102

"Make it beautiful, craft it lovingly, and stand behind it. People will love it."

A simple philosophy. But most effective.

With it, we've made the GMC MotorHome something that captures the imagination.

We made it sleek. We made it low. We made it so it would slip through the air easily and handle responsively. We gave it front wheel drive. And tandem rear wheels. And air suspension. But that wasn't enough. We decided to offer it in a series of special-edition models. Each with its own special color. And each with a well thought-out interior decor that combines beauty with easy, pleasant living.

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Designed for utility, this fluid carving is yet notable today, although 500 years old, for its formal grace.

More startling was our discovery of a miner, with pickax and hardhat, in a misericord in the old port town of Tréguier. Were there miners in Brittany at that epoch? A search of the regional literature revealed the accounts of a fraternal order of ocean-going captains at Tréguier who donated six *sous* to the Virgin for each of their voyages, to assure the safe delivery of their cargoes of "wine and iron."

Most donors of stalls-cum-misericords were churchmen who were seeing to their own comfort. But they also included nobles and even royalty, for whom seats would be reserved in the choir, as well as members of other affluent classes. A military man, Robert de Balsac, founded the Collegiate Church of Saint-Chamant for his soul's balm in his native Auvergne highlands, equipped it with stalls whose misericords are among the most delicately carved in France. And even burghers helped furnish the choirs from which commoners are usually thought to have been strictly banned.

Somber portents were infrequent in the misericords. It was their prevalent frolicsome character that caused sober latter-day churchmen to attempt to relegate them into limbo. Thus, they were forgotten, and the Ministry of Culture's registrars, who list France's "patrimony" of old art, recorded only a very small fraction of the misericords that we discovered.

The Bibliothèque Nationale was slightly more informative, but the hunt there was long and tedious. Short of paying personal visits to the country's thousands of old churches, the only practical approach seemed a mailed survey. The response was surprising. In France alone, the replies disclosed 8,000 misericords, in every corner of the country.

Sleeping monk, from Church of Notre-Dame in Prey, is remarkably modern for a medieval carving.

Laser Beam Digital Watch

Never press another button, day or night, with America's first digital watch that glows in the dark.

Announcing Sensor's new Laser 220—the first really new innovation in digital watch technology.

Would you do this with your solid-state watch? Of course not. Most solid-state watches require care and pampering but not the Sensor. You can dunk it, drop it and abuse it without fear during its unprecedented five-year parts and labor warranty.

It's ingenious, it's simple and it makes every other digital watch obsolete. Scientists have perfected a digital watch with a self-contained automatic light source—a major scientific breakthrough.

SELF-CONTAINED LIGHT SOURCE

The Laser 220 uses laser beams and advanced display technology in its manufacture. A glass ampoule charged with tritium and phosphor is hermetically sealed by a laser beam. The ampoule is then placed behind the new Sensor CDR (crystal diffusion reflection) display.

The high-contrast CDR display shows the time constantly—in sunlight or normal room light. But, when the room lights dim, the self-contained tritium light source automatically compensates for the absence of light, glows brightly, and illuminates the display.

No matter when you wear your watch—day or night—just a glance will give you the correct time. There's no button to press, no special viewing angle required, and most important, you don't need two hands to read the time.

Replace the battery yourself by just opening the battery compartment with a penny. Free batteries are provided whenever you need them during the five-year warranty.

A WORRY-FREE WATCH

Solid-state watches pose their own problems. They're fragile, they must be pampered, and they require frequent service. Not the Laser 220. Here are just five common solid-state watch problems you can forget about with this advanced space-age timepiece:

1. Forget about batteries The Laser 220 is powered by a single EverReady battery that will actually last years without replacement—even if you keep the 220 in complete darkness. In fact, JS&A will supply you with the few batteries you need, free of charge, during the next five years. To change the battery, you simply unscrew the battery compartment at the back with a penny and replace the battery yourself.

2. Forget about water Take a shower or go swimming. The Laser 220 is so water-resistant that it withstands depths of up to 100 feet.

3. Forget about shocks A three-foot drop onto a solid hardwood floor or a sudden jar. Sensor's solid case construction, dual-strata crystal, and cushioned quartz timing circuit make it one of the most rugged solid-state quartz watches ever produced.

4. Forget about service The Laser 220 has an unprecedented five-year parts and labor warranty. Each watch goes through weeks of aging, testing and quality control before assembly and final inspection. Service should never be required. Even the laser-sealed light source should last more than 25 years with normal use. But if it should require service anytime during the five year warranty period, we will pick up your Sensor, at your door, and send you a loaner watch while yours is repaired—all at our expense.

5. Forget about changing technology The Sensor Laser 220 is so far ahead of every other watch in durability and technology that the watch you buy today, will still be years ahead of all others.

THE ULTIMATE ACHIEVEMENT

Other manufacturers have devised unique ways to produce a watch you can read at a glance. The new $300 LED Pulsar requires a snap of the wrist to turn on the display, but the Pulsar cannot be read in sunlight. The new $400 Longine's Gemini combines both an LED and liquid crystal display. (Press a button at night for the LED display, and view it easily in sunlight with the liquid crystal display.) But you must still press a button to read the time. All these applications of existing technology still fail to produce the ultimate digital watch: one you can read under all light conditions without using two hands. Until the introduction of the Sensor.

PLENTY OF ADVANCED FUNCTIONS

Sensor's five time functions give you everything you really need in a solid-state watch. Your watch displays the hours and minutes constantly, with no button to press. But depress the function button and the month and the date appear. Depress the button again and the seconds appear. To quickly set the time, insert a ball-point pen into the recessed time-control switch on the side. It's just that easy.

Sensor's accuracy is unparalleled. All solid-state digitals use a quartz crystal. So does the Sensor. But crystals change frequency from aging and shock. And to reset them, the watch case must be opened and an airtight seal broken which may affect the performance. In the Sensor, the crystal is first aged before it is installed, and secondly, it is actually cushioned in the case to absorb tremendous shock. The quartz crystal can also be adjusted through the battery compartment without opening the case. In short, your watch should be accurate to within 5 seconds per month and maintain that accuracy for years without adjustment and without ever opening the watch case.

The new exclusive laser-sealed tritium and phosphor light source is a thin solid-state tube that automatically illuminates the display when the lights dim.

STANDING BEHIND A PRODUCT

JS&A is America's largest single source of digital watches and other space-age products. We have selected the Sensor Laser 220 as the most advanced American-made, solid-state timepiece ever produced. And we put our company and its full resources behind that selection. JS&A will warranty the Sensor (even the batteries) for five full years. We'll even send you a loaner watch to use while your watch is being repaired should it ever require repair. And Sensor's advanced technology guarantees that your digital watch will be years ahead of any other watch at any price.

Wear the Laser 220 for one full month. If you are not convinced that it is the most rugged, precise, dependable and the finest quality solid-state digital watch **in the world**, return it for a prompt and courteous refund. We're just that proud of it.

To order your Sensor, credit card buyers may simply call our toll-free number below or mail us a check in the amount indicated below plus $2.50 for postage, insurance and handling. (Illinois residents add 5% sales tax.) We urge you, however, to act promptly and reserve your Laser 220 today.

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By James K. Page jr.

Old-time pickin' and playin' in Poor Valley

In the hills of Virginia a member of a famous country music family keeps down-home traditions alive

They call it Poor Valley but that's the last notion you would get about the place if you kept your ears open. Especially on Saturday night. Then, around six o'clock, people start out from the hollows and hills and drive along Route 614 in the southwestern tip of Virginia, a road that winds through the valley's farms, crossing and recrossing the north fork of the Holston River like two blacksnakes in love. Some come all the way around Clinch Mountain from what they call Rich Valley; others come from as far away as Johnson City, Tennessee, and even Charleston, West Virginia. They converge on a nondescript twin-gabled store three miles up the river from Hiltons—a store where no one has sold groceries for years.

By seven o'clock, mountain people of all ages, college students and a professor or two have formed into small groups leaning against the cars and pickups next to the store. Someone takes a quiet lick on a guitar. Here and there is some soft, spontaneous singing in the dusk.

Half an hour later, some 200 people have moved inside, to sit on wooden auditorium chairs that were obviously salvaged from an old school, and a woman with brown wavy hair is standing on the small wooden stage wearing a long dress and cradling an autoharp.

"Well, I'm sure glad you all came," she begins in a deep voice. She is Janette Carter, youngest daughter of the late A.P. Carter, and this is A.P.'s grocery store. Everyone in the room knows what that means. This slightly ramshackle store, with jerry-built bleachers along two walls, with Pepsi, candy and cigarettes for sale in the back (but no smoking in the store), is the latest manifestation in a musical legend, an out-of-the-way mecca for folks who love fiddling, banjo-picking and the other joys of foot-stomping, old-timey, down-home, authentic country music.

Photographs by Susanne Anderson

With Sara Carter's photograph behind them, the Red Clay Ramblers keep feet stomping and hands clapping at A.P. Carter's old store.

A recently refurbished steam engine backs past the Carter store as Janette Carter, Sara's daughter, watches from her front lawn.

On the stage, the night I was there, Janette mentioned the imported talent that would perform—the Red Clay Ramblers, a young group from Chapel Hill, North Carolina, who spent eight months providing the music for *Diamond Studs,* an Off-Broadway musical about Jesse James. Then she remarked that all of the local regulars were also there to perform, including, as a special treat, her brother Joe Carter, who was home briefly from building schools in Kentucky and would help her out on a few songs. So with Joe backing her up with his deep bass voice and his guitar perched on his ample stomach, she strummed tinny chords on the autoharp and sang:

I saw a way-worn traveler
in tattered garments clad
And struggling up the mountain,
*it seemed that he was sad.**

It was a song recorded by her father. Just about everyone in the room had heard it hundreds of times, and they all loved it. And if it hadn't been for Janette's father, his wife Sara and his sister-in-law Maybelle, none of them might have known those lyrics at all. In the 1920s and '30s these three, along with their children as they became old enough, traveled through their native mountains collecting old songs—some of them little changed from their Anglo-Saxon origins long before—and adapted them to the guitar and the autoharp. They sang the songs on records that sold in the millions and over the brand-new medium called radio, beaming them back to the mountains in a manner that any listener equipped with a guitar could emulate.

The Carters were among the first to copyright songs, thus tacitly taking credit for some they simply preserved and popularized, such as *The Wabash Cannon Ball.* All in all, you can find plenty of people who will say the Carter family did more to enliven and preserve the tradition of country folk music than anyone before or since. Assiduous scholars smell a trace of the Carters in rock and roll, country western, bluegrass—you name it.

Janette herself began performing with the family when she was five, buck-dancing on a table in an Indian suit. At 12 she had bought her own autoharp, an instrument she still plays in her living room 39 years later, and had begun to sing the high nasal harmonies that twang at the heartstrings of all country music fans and, just as forcefully, turn off sophisticates who prefer to think that the mountain song—maudlin, melodramatic, simple—isn't as much a piece of the American musical heritage as jazz or John Cage.

His back was laden heavy,
his strength was almost gone,
Still shouting as he journeyed,
*"Deliverance will come."**

Janette Carter's straightforward voice,

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Beneath a portrait of her father, A.P. Carter, Janette welcomes some 200 locals to a Saturday night performance in the family store in Poor Valley.

which can be alternately tough and sweet, throaty and adenoidal, sang of weariness and loss. Corny? For some. But Janette and her music have sprung from an environment where weariness is the standard state of being and where the unsophisticated feelings of grief and religious devotion are as real as the change of seasons of the mountainside. The day after the performance, Sunday, Janette entertained guests in her living room, which is heated with a wood-burning stove and cluttered with heavy furniture and family photographs. "I don't get to church as much as I should anymore, now the kids are growed," she said, and later sang *On the Sea of Galilee,* bringing tears to her *own* eyes. I wondered how long it had been since I heard people sing much at all in their own homes, much less actually *believe* the lyrics they were singing. Insulation is necessary in electrical wiring and insulation is what we, of the Electronic Age, have put around ourselves.

End of an era

With the advent of World War II, the Carter Family ceased recording, which some country music devotees see as the symbolic—even the actual—end of a golden era. The folk music of the rural South fell under the influence of Northern capital and became what purists call "commercialized." The center of gravity soon moved to Nashville, Tennessee, which is some 300 miles southwest of Hiltons, Virginia, and the amplified electronic throbbing of the Nashville bigtime passed Janette by.

A.P. died in 1959 and Janette's public appearances, at local gatherings and regional festivals, ceased while she raised her family of three.

But Janette had too much music in her bones to be merely a parlor performer for very long. While employed full time in a local school cafeteria, a job she still holds, she organized a country music festival that now takes place each summer a few miles up the railroad track in Poor Valley and, two years ago, turned the grocery store down the precipitous hill from her house into a place where people could come and play her kind of music.

And it turns out the hills were full of them—old-time groups little known outside the mountains, with names like the Morris Brothers, the Smoky Mountain

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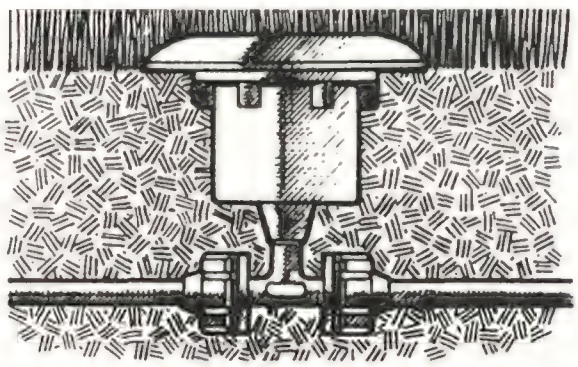

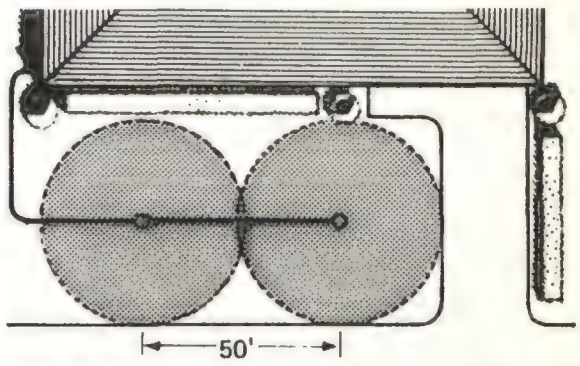

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Playing the autoharp, Janette sings one of several ballads she has written.

Special, and the McMurray Brothers backed up by the Hilton Grass. The latter group made their first professional (that is, paid: you get 60 percent of the house at $1.50 a head) performance at Janette's and subsequently, to honor the event, wrote and recorded *A.P. Carter's Store*. "We'll pick and play till we can't pick no more," the song goes, "the old-time music at A.P. Carter's store."

Janette was a little nervous about the Red Clay Ramblers. Unlike the other performers she had invited, they were unknown to her. (They had been recommended by one of the Morris Brothers, Dave Morris of Charleston, West Virginia, a normally down and out but irrepressible cultural minister for "pure" country music.) While Janette was introducing the Ramblers there was a crash. Their ample banjo player, Tommy Thompson, had fallen part way through a window he was leaning against at the side of the stage. Intact, he explained that since the audience at the store was known to be highly critical, he was merely clearing out an escape route in the event that their music just wasn't good enough.

It was good enough.

Every two or three numbers, there was a cacophonous foot-thumping fiddle tune, and with the first raucous chords of each one, like the bell at a horse race, people took off from the rows of auditorium chairs and mounted the steps to the stage just to the right of the band. The rickety floorboards would then strain under the clattering heels of the buck-dancers (or flatfooters), of whom the star was unquestionably a 76-year-old woman named Nannie Smallwood. The wife of a retired carpenter, she learned only a few years back how to play the banjo herself because her husband made one for her out of cedar. She is proud to have been recorded playing her banjo, along with Janette and other local talent from Poor Valley, by the local community college (which covets her banjo), but her favorite pastime and major achievement is dancing. She is loath to miss a Saturday night performance at the Carter store (Janette's husband Jack Kelly picks her up and drives her home every Saturday) and, that

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night, she didn't miss a single fiddle tune. On a few occasions, when the diminutive dance floor was too crowded, she simply stood up and danced in the aisle next to the coal stove with Esker Harper, a huge loose-jointed hearty who is a decade or two her junior and who plays the raunchiest French harp in Poor Valley.

Well, old Esker got his turn performing on stage, as well as just about everyone else there who wanted to pick or sing. A local group called the Home Folks played, featuring Beecher Smith on the fiddle (Beecher carries with him a 1940s postcard showing the Carter family posed in publicity-conscious rows—all of them); a young guitarist who came to Poor Valley with the Office of Economic Opportunity and decided to move in for good; and his wife who is not much more than four and a half feet tall but has a voice big enough to split a Civil War cannon. The evening thundered on, and the A.P. Carter store filled up like a bowl with music and motion and laughter and occasional tears.

One of the performers, a semiregular

In audience, a grandmother stolidly supports her inattentive grandson.

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from East Tennessee State University in Johnson City, was Richard Blaustein. A folklorist and no mean fiddler, he runs a program in conjunction with Broadside Video which, with funding from the National Endowment for the Arts, is devoted to videotaping and otherwise recording the music, the lore, and the ways of life of the mountain people of Appalachia. How important was all this business, I asked him a bit stiffly, the significance-seeking journalist.

"Well, Janette is doing as much as anyone to hold on to traditions here," he said. "Some of it may be unwitting. For example, people really feel at home here, playing and listening, partly because it's a grocery store. It was in grocery stores where these mountain folks always used to get together to play. I don't think she did that consciously, but it works. What's important is that it's fun. Man, listen to that guy play the fiddle, will you?"

And one of the Red Clay Ramblers, a philosophy student at the University of North Carolina and, everyone there agreed, as good a fiddler as you'll ever hear, said, "It was O.K. playing on Broadway, but I'd rather play in this place. The pay isn't much, but the people are real here. It's a privilege."

Eventually the kaleidoscope of entertainment came to an end. The Red Clay Ramblers started packing up their instruments and the mountain people began to amble out into the rain. But in the back of the store next to the Pepsi machine, a few people hung around in the shadows and a couple of the Ramblers drifted over to join them. A man in a neatly brushed fedora and a windbreaker began to sing hymns and the others joined in.

A young woman listens with emotion to a handsome guitarist's ballad.

"That's Bill McCall," Janette told me. "He delivers Pepsi hereabouts and he's a Sunday school teacher. He really knows his Bible." The hymns went on for another half hour, but finally everyone left and the lights in the store, reluctantly it seemed, went out.

The next morning we sat around Janette's house and she and her brother Joe sang and told stories about Johnny Cash, their cousin-in-law, and Nashville and how, except for some of Cash's songs, the new music has just passed them by.

"Sing *Call of the Wild,* Joe," said Janette. Turning to me, she said, "Joe wrote that one for Johnny Cash. It's on his children's album. But Joe sings it better."

Maybe he does. I came to A.P. Carter's store a total neophyte in such matters. But I listened to the nasal harmonies and watched the human harmonies, and the tough, honest, sexy voices got under my skin. These people refuse to modulate their voices the way a well-trained singer does. Instead, they force the music, insisting on the high notes until their voices crack. Their lyrics are those of grief and humor, the two modes of response open to any people throughout time who have had to submit. But the *music* is defiant: don't tread on me, it says. You don't get that kind of music out of an amplifier.

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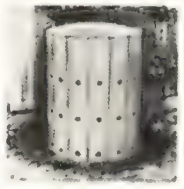

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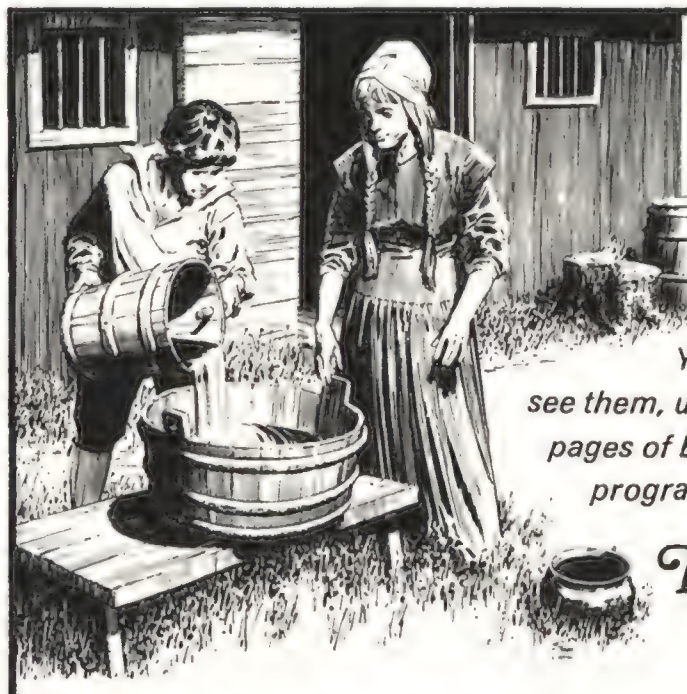

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Butterfly with stained glass wings
forms a modern weather vane
by Vermont craftsman Peter Krusch

By David M. Schwartz

Prospering winds for weather vanes

Price boom turns attention toward the steeples and cupolas where a neglected craft still holds sway

It is encouraging to know that craftsmanship still lives. Potters, jewelers, cabinetmakers, craftsmen of every calling are finding a gradually reawakening interest in their merchandise. Creators of weather vanes, though few, are no exception. One such artist is Peter Krusch of Cambridge, Vermont. "I can put out weather vanes on a production basis, 20 at a time, when I need to," says the six-foot, steel-haired blacksmith who once earned his living running a 10,000-hen poultry farm, "but what I really like is to find someone who thinks he knows what he wants, but has no idea of how it could be designed as a weather vane. Then we can go back and forth three or four times until I'm practically crawling on top of his roof, holding up the patterns."

Some of his weather vane ideas are entirely self-initiated and unquestionably unique. A four-foot butterfly with green stained-glass wing patches and a glass eye may well be America's first weather vane of this type. Krusch's work is convincing evidence that a new chapter is being written in the history of this folk art.

The world's first recorded weather vane came from Athens. During the first century B.C., a vane in the form of one of the Greek sea gods was erected on the Tower of the Winds. In the course of the next thousand years or so, weather vanes made their way across the European continent and a Papal order went out to place a statue of a rooster atop every Christian church. The rooster was meant to be a reminder to the devoted to attend church services. It recalled Christ's prediction: "I tell thee, Peter, the cock shall not crow this day, before that thou shalt thrice deny that thou knowest me" (Luke 22:34).

If most people think first of roosters when they think of weather vanes, then banner or arrow-shaped vanes (often called banneret vanes) must be a close second. In medieval days only kings and other nobles were entitled to fly pennants or banners, each distinctive of the family that heralded it. Over the centuries these banners evolved from cloth to metal and from stationary insignias to rotating indicators of wind direction. Coming to America on the coattails of English architectural design, banneret vanes inspired a myriad of variations: first an arrowhead was added on the front, then tail feathers on the back (thus the common arrow pointed into the wind), then curls, curlicues, scrolls, initials and other flourishes. They became so popular that many churches abandoned the symbolic rooster in favor of bannerets.

To uninitiated vane watchers in many areas, roosters, arrows and bannerets may seem to be the extent of weather vane diversity. Indeed, most sections of the country boast very little else. But a look to the Northeast, where the daily needs of farmers to predict the weather met the imaginations of blacksmiths and wood-carvers, will reveal a mind-boggling variety of

David Schwartz is a teacher at the Putney Grammar School in Vermont.

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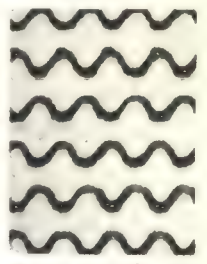

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Dating from the 19th century, trotting horse and sulky probably adorned

weather vanes. Barnyard animals, carriages, fire engines, ships, Indians, lions, tigers, hunters, Don Quixote tilting at a windmill, even a physician chasing a stork, add spice to cupolas throughout the countryside.

Originally, the Colonial farmer, living near a small village, could easily spot the highest point in town—the church steeple bearing its weather vane—and determine the wind's direction. But towns grew, and the church became more and more remote to the people on the outskirts. To keep abreast of the weather, farmers

Trumpeters are a favorite theme for weather vanes. These two, an angel and

a stable of trotters. Weather vane is now in the Smithsonian collection.

needed their own vanes and the choice of subjects was wide. Why not announce the source of livelihood? So weather vanes in the form of cows, sheep and hogs began to appear at the pinnacles of the barns that lodged them.

A growing nationalism in the young country during the 19th century led to an outpouring of patriotic themes. Three-dimensional copper eagles soon perched on rooftops everywhere and eventually became a popular choice to enhance town halls. The J. W. Fiske Company's catalog of 1893 boasted a gold-leafed copper

a triton, are in the Smithsonian's Museum of History and Technology.

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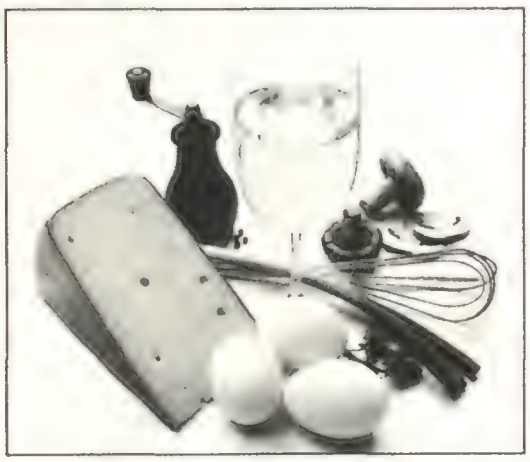

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Weather vanes in the wind

Scale model of locomotive tops the depot at White River Junction, Vermont.

eagle, with 14-foot wingspan. The price: $600. It's no wonder, then, that in today's market offers of $10,000 and more for antique weather vanes are not unusual.

But who fashioned these rotating monuments to our forefathers' whims? Any farm boy could rasp out a wooden arrow, impale it with a metal shaft and plunk it down on a fence post. Many did, but their products have not withstood the abrasions of a century's winds. The old weather vanes we see today were made by people who spent considerably more time on their design and construction. Many of them were created by nameless blacksmiths, a select few by master craftsmen.

Shem Drowne, whose grasshopper on top of Boston's Faneuil Hall and banneret on the Old North Church were waving when Paul Revere's ride made history, was America's first documented master of the art. In pre-Revolutionary years, he sculptured sheets of copper into shape, almost as if they were pliable lumps of clay. Metal-working tools were needed for this demanding "repoussé" process; the same type of tools are still used, and repoussé is still the only way to make outsized hollow copper vanes. A more common method of Drowne's, however, also employed by modern coppersmiths, was to hammer copper sheets into hand-carved wooden molds. Two identically shaped forms, representing both sides of a figure, soldered together at a central seam, produced a symmetrical figure.

It was not long before our country entered the era in which pastures were divided like squares of cake, houses sprang up like garden vegetables, and proud homeowners wanted weather vanes to match their newly garaged cars and freshly potted chickens. So began the age of assembly-line weather vanes. Available in hardware stores, they were functional, but artistically impoverished.

It is natural then, that authentic old weather vanes are fetching fabulous prices. And it is sad that the market for them has produced a new kind of thief.

In our shiny new school bus, children and two teachers seemed an innocent enough band of travelers, as we wheeled into the unfamiliar driveway, one mile west of Putney, Vermont. Wishing to discover why weather vanes pointed into,

Indian's arrow repeats the arrow base in this 19th-century vane at Smithsonian.

rather than away from, the wind, we wanted a minute to gaze at the metal rooster that was freely rotating on its lofty rooftop perch; we hoped that a simple explanation of our credentials would lower any raised eyebrows. But the surprise was ours as the well-mannered lady added to her consent, "Mind you now, don't try to rip it off."

A day later, we learned the reason for her warning. Nearby Brattleboro woke up to find itself poorer by one famous work of art. *Spirit of Life,* the bronze statue of a winged angel which had stood in Plaza 'Park, was missing. Sculptured by Daniel Chester French, best known for his *Minute Man* at Concord's Old North Bridge and the statue of Abraham Lincoln that sits in the Lincoln Memorial in Washington, the *Spirit* had historical as well as artistic value for the Connecticut Valley city. An intensive investigation by State and local police and the FBI unearthed the statue in an antique shop in York, Pennsylvania. According to Captain Gordon Smith of the Brattleboro Police Department, *Spirit* was not the only Vermont valuable residing with York's antique dealers. More than 200 items were found in two shops. At the very time my class was out studying weather vanes, a ring of about a dozen thieves had been combing Vermont's countryside for these now-costly antiques.

Captain Smith doubted persistent rumors that weather vane thieves had used helicopters and lassos to pull off their crimes. "Anyone who has money enough to run a helicopter at $75 an hour doesn't need to steal weather vanes." Nor did he buy tales of thieves equipped with high-powered rifles, shooting off the vanes' bases, and returning under cover

Gilded cow undoubtedly marked the cow barn of a dairy farm.

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of night to collect their booty. He concluded that the less extraordinary skill of climbing barns and steeples was all the vane-snatchers required. The ones found in York were only a small fraction of the thousands of weather vanes taken from Vermont and sold all over the country.

Many of these are unique works of art which, if not retrieved, can never be replaced. The copper peacock which rested atop the Brattleboro Retreat was such a piece. "It'd been here longer than anyone can remember—built by one of the old maintenance men," related the present custodian, successor (many times removed) to the original artisan. Although the peacock has not yet been recovered, a joint effort by Vermont, Massachusetts and Connecticut police was more successful with the thieves, and most of them were arrested this winter. Weather vane owners who have brought their possessions inside for safekeeping may now consider returning them to their rightful roosts. But many fear the threat is not over. The words of a Grafton shopkeeper reflect a growing skepticism among his townspeople. "We used to have some beauties around here, but they're practically all gone. Even if we get them back, they'll probably never go up again. It's too risky."

Two years ago, Faneuil Hall's famed grasshopper (opposite) was kidnapped for a still mysterious ransom, then found inside the old building. The detective on the case was Paul Revere Carroll, whose direct ancestor probably checked the same old weather vane "On the eighteenth of April, in Seventy-five. . . ."

Like health, which is not appreciated until it fails, weather vanes were taken for granted until they began to disappear. On the heels of the recent crime wave has come the realization that weather vanes are an American folk art with a rich history. As an art form, they are unique precisely because they are so common; we need not wander far from home to enjoy them. We can still see them every day, if we look, on our churches and municipal office buildings. We can hope that modern examples of the venerable craft will become increasingly common sights along our country roads and city streets.

Gilded grasshopper on Faneuil Hall has glass eyes. Made in 1742, it is probably America's most famous vane.

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Book reviews

Oriental Ceramics. The World's Great Collections, Volume 10. The Freer Gallery of Art
Introduction by John A. Pope; Selection and Notes for China, Japan, Korea by Josephine H. Knapp; for Islamic art, Esin Atil (Kodansha Ltd., $225)

This book is a feast for the eye. So luscious are the colors and glazes of the ceramics reproduced that the reader wants to reach out and touch them.

In the stunning parade of Japanese-produced art books, this is a whopper. Handsome as well as heavy (10 pounds, with luxurious 14½-by-9½-inch pages), the book is somewhat difficult to read. The short but excellent descriptions are separated from both the color and black-and-white photographic sections, making the reader flip all those pounds back and forth to correlate pictures with descriptions. The exercise is well worth the trouble, however, for the excellence of text and photography make up for the inconvenience. The text is divided into a succinct introduction by John A. Pope, the Freer's distinguished director emeritus and noted ceramics authority; a section of 100 color plates; a section of 325 black-and-white plates; a section of smaller reference photographs showing side, back, base and inside details, as well as Chinese reign marks on the bases of later works; and notes to the plates.

Though the color section dazzles the eye and is remarkably true to the objects illustrated, Freer the collector should be noted as well. While his contemporaries —Widener, Morgan, Rockefeller, Frick— bought ornately decorated Ch'ing dynasty porcelains through the European market, Freer collected the less popular, subtle, subdued wares of the earlier dynasties. Here we see the courage and purity of his taste, in a field—Oriental ceramics—which was new and intricate for collectors at the turn of the century.

Ming dynasty jug in Freer collection.

Freer had collected 9,500 objects when he died in 1919; of these, 1,667 were ceramics, amassed over a 27-year period. The book traces Freer's areas of interest: 458 Chinese ceramics, 823 Japanese, 237 Korean and 149 Near Eastern. The quality is always perfect, or near-perfect. Though Freer had the good sense to get advice (the painter James Abbott McNeill Whistler and Oriental scholar Ernest Fenollosa were his early mentors), it is unmistakably Freer's taste that is revealed, beautifully exemplified in this stunning volume.
—Joanna Eagle
Critic and lecturer on Oriental art

A Most Unsettling Person: The Life and Ideas of Patrick Geddes, Founding Father of City Planning and Environmentalism
Paddy Kitchen
(Saturday Review Press/Dutton, $10.95)

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secured a "real" academic appointment during his lifetime (1854-1932). A self-proclaimed planner, none of his schemes —among them comprehensive designs for Jerusalem and scores of cities in British India—was ever built.

But planners today revere Geddes. In many of his books Lewis Mumford commemorates Geddes, and employs concepts he created, including such notions as "technics" and "conurbation." For Geddes, who "practiced synthesis in an age of specialism," startles conventional thinkers so that "if they chanced within the range of Geddes' talk, henceforth nothing could medicine them to that sweet sleep which yesterday they owned. There was something more in town planning than met the eye!"

That "something more" consisted in Geddes' commitment, not to any one science or discipline, not even to "planning," but to finer towns and more fulfilled lives than he found around him. Geddes came to planning from biology, not engineering or public health. Preferring the organic to the mechanical, life observed to life in theory, he counseled evolutionary renewal of existing buildings, not massive clearance, and plants, not pavement.

Many of his projects were devoted to helping people share this vision. His problem was to make "those who see nothing at all in Civics, at least nothing but gas and drains—see, well, here is a concrete sociology, a description of human hives a good deal more interesting than those which biologists make for simpler species." He created tools to enable people to perceive the invisibly large community that a living city comprises, much as microscopes and dissections revealed the invisibly small lives of individual organisms. One such device was the Outlook Tower, a castle in Edinburgh which Geddes converted into a civic observatory and museum of urban evolution. To bring its insights to other communities, Geddes assembled a cities exhibition for display at the world's fairs common at the turn of the century. From them grew *Cities in Evolution*, his best-known book.

Underlying each of Geddes' enterprises was the belief that the city scientist's task "is not mere place-planning, nor even work-planning. If it is to be successful it must be folk-planning." This required turning away from the "most popular

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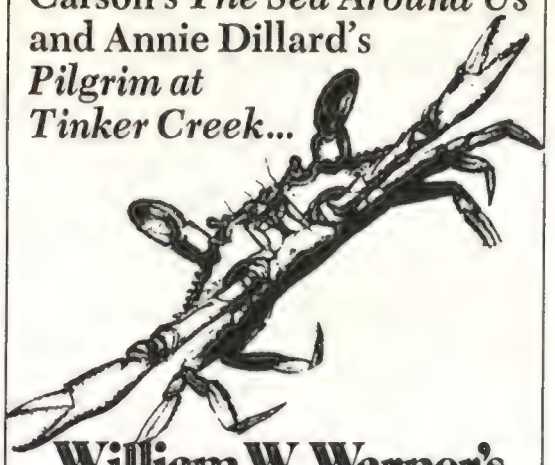

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school" of planning, which "holds that the immediate effect is alone worth consideration. Here a street as fine as may be, there a monument as impressive as funds will allow. . . ." Proper planning and "regional survey" revealed in India, for example, that filling in community water holes interrupted a sensible culture; it was far better, and less expensive, to improve hygiene by stocking ponds with fish to eat malarial larvae, and with ducks to eat the fish. Planning had to accommodate nature and human nature, for each shaped the other. The process implied finding "the right places for each sort of people; places where they will really flourish. To give people in fact the same care that we give when transplanting flowers, instead of harsh evictions and arbitrary instructions to 'move on,' delivered in the manner of officious amateur policemen."

Geddes had evolved a comprehensive and human view of planning, one grounded in ecological training. He taught that successful community planning depended upon meticulous study of living people, not upon abstract approaches. What made his thought fresh in its own time, and doubly relevant today —with emerging environmental awareness, design in harmony with nature, and reaction against highway programs—was Geddes' understanding that planning is predicated on "recovering the concept of industry and of economics from their patent misuse, as dominated respectively by mechanism and money. . . ." In his work we detect the first signs of turning from belief in the power of the machine and of technology to meet all human needs, toward fundamental questions about how humans settle and live.

Paddy Kitchen's biography of Geddes recalls us to his teaching, just before Habitat, the U.N. conference on human settlements, convenes in Vancouver this spring. As it contributes to the accelerating rediscovery of Geddes, evidenced by publication of recent anthologies, *A Most Unsettling Person* is welcome. But it is a poor introduction to Geddes' work. Geddes confounds biographers, for he was a committed "amateur" in the Victorian sense, valuing the "sciences" while refusing to settle into the discipline of any one of them. Nor do his writings form a coherent guide to his systematic thought, for his comprehensive notions were passed on in rambling lectures or

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scattered among jumbled letters, rough plans and hurried books. Geddes, notes Mumford, denounced "verbalistic empaperment," for he "was a teacher; and like all great teachers, from Socrates onward, he relied upon direct intercourse rather than the printed word."

Confronting this dual difficulty, Kitchen—an English novelist become biographer—abandons an intellectual chronicle for merely personal narrative. The result too frequently is lists of unpaid debts, or excerpts from trivial letters to family and friends. Rather than conveying the vision which bound together the Outlook Tower, the cities exhibits and the educational processions in the streets of Indore, Kitchen isolates each venture, segregating the life from the ideas that animated it. The unities and principles of "regional survey," which Geddes so refined, here remain only partly perceived.

—*John S. Rosenberg*
Staff associate, The Conservation Foundation

Encounter with an Angry God: Recollections of my Life with John Peabody Harrington
Carobeth Laird
(Malki Museum Press, Morongo Indian Reservation, Banning, California, $8.95)

For too long anthropologists have studied the "native" peoples of the world without being studied in their own right. Carobeth Laird's *Encounter with an Angry God* turns the tables on an early 20th-century Smithsonian ethnologist/linguist, John Peabody Harrington. A more devastating or savage exposé of a scientists's character has probably not been written. Carobeth Laird, now 80 years old, was Harrington's admiring student, devoted wife, chauffeur, research assistant and cook. Treated by Harrington as an object or tool in support of his scientific work, she eventually ran away and married a Chemehuevi Indian, George Laird, to whom she had been sent by Harrington to gather linguistic data.

While the story of her growing love for the gentle, considerate Laird is tender and moving, it is her account of Harrington's manic pursuit of linguistic data from the rapidly changing Indian tribes of southern California that is of greatest interest to students of both anthropology and human relations. The book, while focused on the peculiar relationship of anthropologist and source, and anthropologist's wife and the Indian, provides at the same time an extraordinary picture of southern California in the early decades of the century.

The paths of Carobeth Tucker and Harrington first crossed in 1915, when the 31-year-old Harrington, recently appointed field ethnologist for the Smithsonian Institution's Bureau of American Ethnology, taught at San Diego Normal School and Carobeth was his 19-year-old student. Carobeth fell in love with the slim and handsome young man who seemed to her "like an angry god." Marriage soon followed. With a wife, a new Ford and a specially designed typewriter, Harrington was able to extend the range of his search for the remnants of California Indian culture. Carobeth drove the anthropologist wherever he went (he could not drive), cooked his meals and typed his notes. Harrington thought of nothing but collecting ethnographic data. Carobeth could not understand how any man "could bring himself to leave a wife (whom he said he loved) alone in the eighth month of pregnancy, without food, money, or transportation," as he did early in their life together. Yet in her memoir she philosophically recognizes that it came easily to Harrington, "with no sense of dereliction and without intentional cruelty." Harrington's commitment to his work (and possibly fear) was such that when the United States entered World War I, he wanted Carobeth to run over his leg with the Ford in order to maim him and thus enable him to avoid the draft. Carobeth refused. Harrington continued his study of American Indians, more often in the field than in published work, until his death in 1961.

Harrington's massive pile of field notes, once indiscriminately mixed with cheese sandwiches and dirty shirts, now fills a large storage space of the National Anthropological Archives in the Smithsonian's Museum of Natural History. Harrington had that frequent failing of scholars: he liked collecting more than writing. Probably inwardly insecure, he hesitated to commit himself to paper. Suspicious of others, he guarded his notes and shielded his informants against "exploitation" by others. In comparison with Professor A. L. Kroeber of the University of California at Berkeley, who worked in

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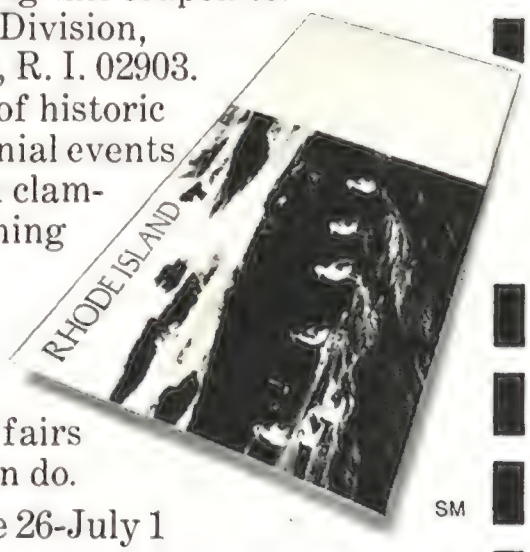

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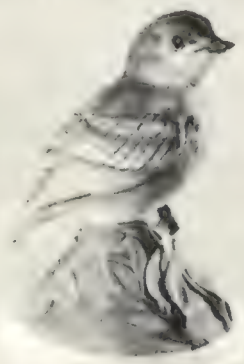

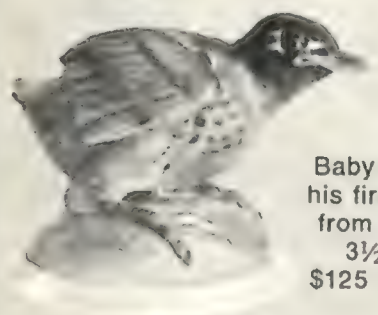

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the same period and with the same subjects, Harrington's reputation is minor. Harrington illustrates the dangers to which a person trained in the isolation of the museum world can be subject, if he lacks the constant contact of fellow scholars and students.

Young scholars are now at work on Harrington's notes. Perhaps his scholarly legacy, which in his lifetime was limited by his disinclination to publish his findings, will be enhanced. But whether his personal reputation will survive his wife's candid though not uncharitable dissection, one may well doubt.

—Wilcomb E. Washburn
Director, American Studies,
Smithsonian Institution

The Social History of the Machine Gun
John Ellis
(Pantheon Books, $12.95)

"You can't run a mining company without a few tommy guns," said an American entrepreneur in the 1930s. Even before that, Al Capone found the gun decisive in Chicago gang wars. A 1922 magazine advertisement declared the Thompson submachine gun to be "the ideal weapon for the protection of large estates, ranches, plantations, etc.," and a cowboy in chaps was shown mowing down a gang of bad guys and their horses. Such have been some of the uses to which the machine gun has been put, part of what John Ellis calls the "social history" of the weapon.

Telling us no more than we need to know of the technical details but illustrating his work with a lavish collection of photographs, engravings and drawings, Ellis relates the history of the machine gun's development, of the attitudes that affected its acceptance, and of its relation to the economic, political and military history of the past 115 years.

Men have been trying to increase their firepower on the battlefield for a long time—at least as far back as the "organ guns" of the 14th century. In the 18th century James Puckle obtained a patent for a kind of machine gun which, he suggested, should be used to shoot round bullets at Christians and square bullets at infidel Turks, but the first workable model did not appear until the American Civil War.

One might think that soldiers would immediately accept such a marvelously destructive device, but when the Indus-

trial Revolution brought forth the technology which enabled inventors such as Maxim and Gatling to produce reliable guns, it was difficult to convince armies that these new weapons could be useful.

The military in every society tends to be culturally conservative, and 19th-century European officers, drawn from the aristocratic and landowning classes who had the most reason to resent the Industrial Revolution and the social changes it brought in its wake, looked askance at the machine gun. Armies resisted the introduction of this weapon which changed the ways in which wars could be fought, for it seemed to negate the old virtues of pluck and fortitude and to reduce the opportunities for individual heroism.

The first effective use of the machine gun was in Africa, where Europeans could offset their numerical inferiority by mowing down charging tribesmen before they came within spear-throwing range. In spite of the gun's success in colonial wars, senior officers still felt that it could not be equally effective against shoulder-to-shoulder European troops stoutheartedly advancing with bayonets. World War I forever disabused the generals of this notion, but not until a generation of young Europeans had been swept away by it.

John Ellis has hard words for anyone who ever had anything to do with this infernal machine. He cites the callousness of inventors, the unscrupulous methods of arms salesmen, the shortsightedness of armies that refused to buy the guns, the stupidity of generals who did not know how to use them effectively, and the inhumanity of those who bought them and used them with ruthless efficiency.

Machine guns are now standard equipment for soldiers and terrorists. The soldiers have adopted more destructive weapons; terrorists may follow their lead. Ellis hopes that his story will not be "simply a footnote to Armageddon."

—*Byron Farwell*
Author of the forthcoming book,
The Great Anglo-Boer War

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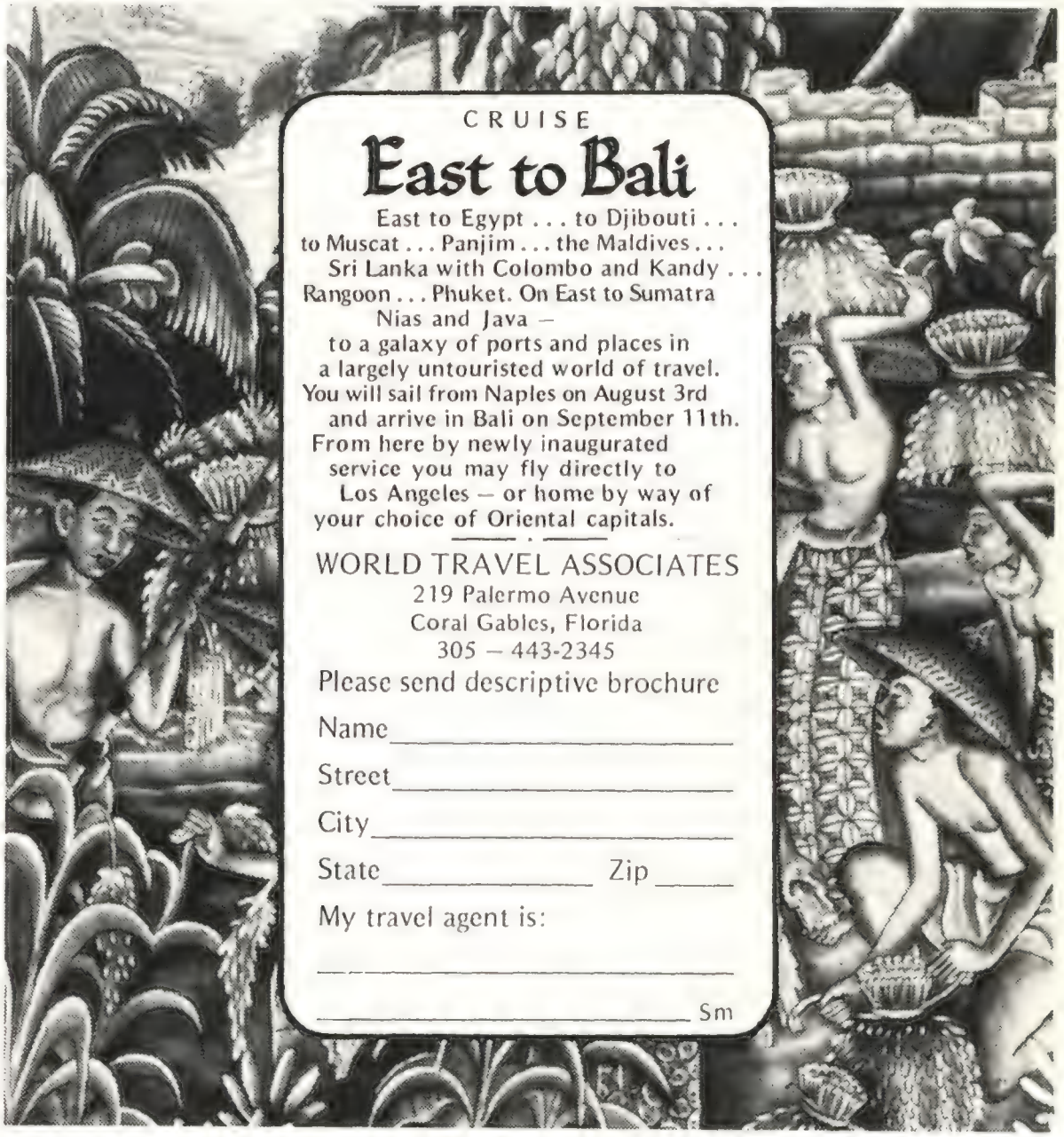

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Additional reading

Rockefeller collection (p. 36)

American Art, An Exhibition from the Collection of Mr. and Mrs. John D. Rockefeller 3rd by E. P. Richardson, The Fine Arts Museums of San Francisco, 1976 (catalog to accompany exhibition)

Painting in America by E. P. Richardson, Thomas Y. Crowell Company, 1956

First Flowers of our Wilderness by James Thomas Flexner, Houghton Mifflin Company, 1947

American Painting: The Light of Distant Skies by James Thomas Flexner, Harcourt, Brace, Inc., 1954

19th-Century America: Painting and Sculpture by John K. Howat, The Metropolitan Museum of Art, 1970

1924 Democratic National Convention (p. 48)

The Politics of Provincialism: The Democratic Party in Transition, 1918-1932 by David Burner, Alfred A. Knopf, 1970

Official Report of the Proceedings of the Democratic National Convention, Held in Madison Square Garden, New York City, compiled by Charles A. Greathouse, Bookwalter-Ball-Greathouse Printing Company, 1924

Politics: The Citizen's Business by William Allen White, Macmillan Company, 1924

Lawyer's Lawyer: The Life of John W. Davis by William H. Harbaugh, Oxford University Press, Inc., 1973

Crowded Years: The Reminiscences of William G. McAdoo, Houghton Mifflin Company, 1931

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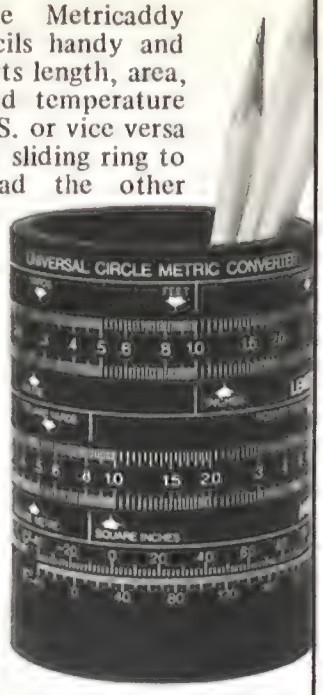

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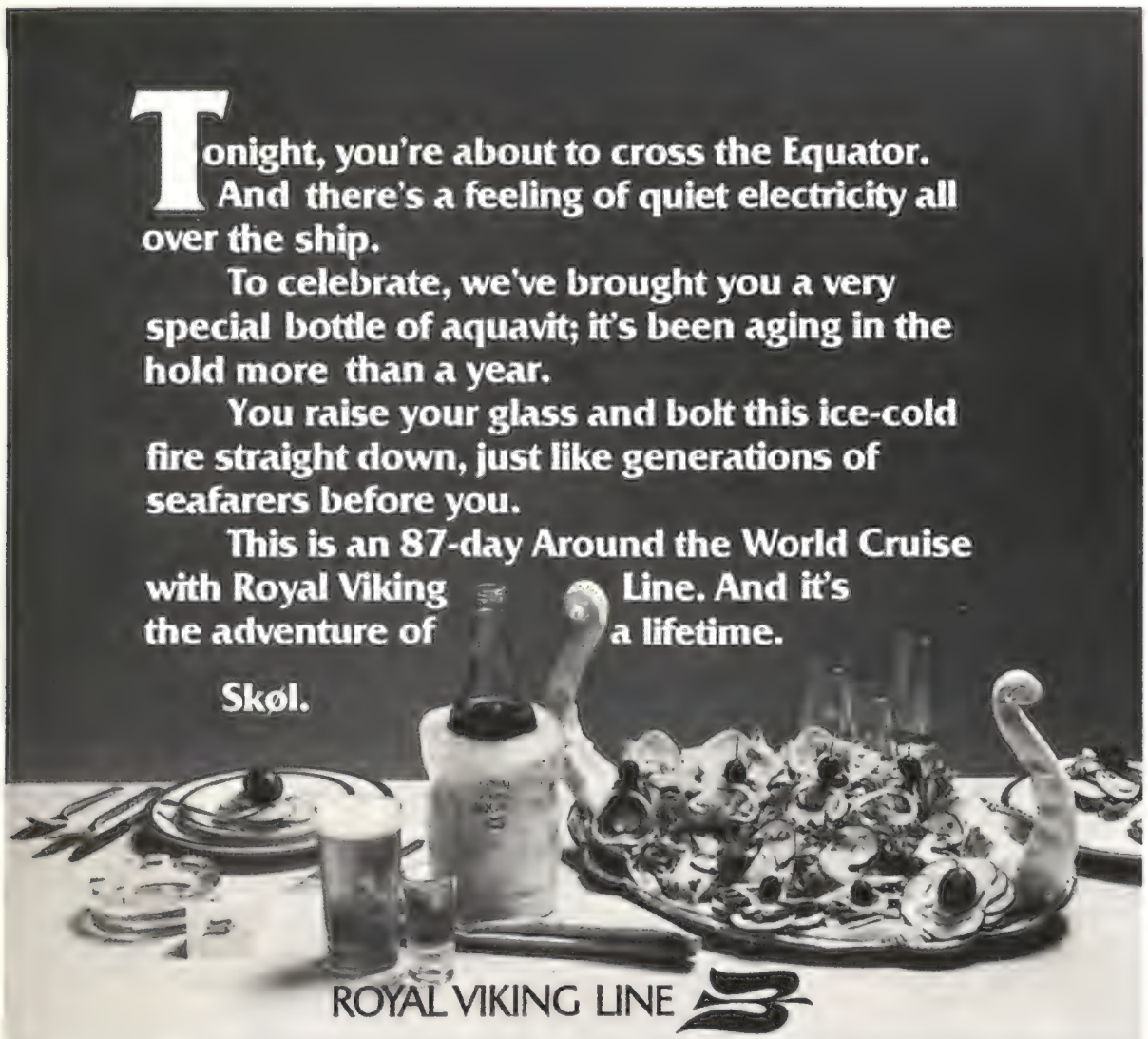

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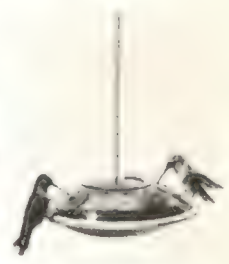

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Smithsonian highlights

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The Smithsonian Astrophysical Observatory's Mt. Hopkins facility at Amado, Arizona, 38 miles south of Tucson, will be open to visitors between 9 A.M. and 12 noon, Saturday, May 1. Tours of the research facilities and astronomical instruments will be conducted at the 7,600-foot level of the mountaintop observatory. Mt. Hopkins will soon be the site for a new multiple-mirror telescope, a joint project of the Smithsonian Institution and the University of Arizona. For information call (602) 792-6358.

Traveling Exhibition Service
During the Bicentennial year, the Smithsonian Institution Traveling Exhibition Service is circulating shows depicting various aspects of the 200-year history of the United States. For information on bringing an exhibition to your area, write: SITES, Smithsonian Institution, Washington, D.C. 20560. Currently on view are the following shows:

- Chicago, Illinois—"The Inaugural Story from George Washington to Gerald Ford," prints, photographs and memorabilia illustrating the inaugural ceremonies of American Presidents (De Paul University Center, April 17-May 16).
- Elmira, New York—"American Presidential China," personal and official china of the Presidents and their families (Arnot Art Museum, April 1-May 2).
- Oshkosh, Wisconsin—"The Seat of American Invention," a historical survey of American chair-making and designing (Paine Art Center and Arboretum, April 1-May 23).

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• Reno, Nevada—"The Men and Machines of American Journalism: The Story of News Reporting," the relationship between news and the technology involved in reporting it (University of Nevada, April 1-25).
• St. Paul, Minnesota—"American Agriculture: A Continuing Revolution," a 200-year history of agriculture in the United States (University of Minnesota, April 1-25).
• Montgomery, Alabama—"Two Hundred Years of Royal Copenhagen Porcelain," a retrospective exhibition of 160 examples of the Royal Porcelain Manufactory's fine works (Montgomery Museum of Fine Arts, April 10-May 16).
• Waterville, Maine—"And the Band Played On," a survey of military, social, jazz and dance bands from 1776-1976 (Colby College, April 1-25).

Divisions of Performing Arts and Musical Instruments

• The American Popular Song Series presents Arthur Prysock in concert—April 4, 8 P.M., Baird Auditorium, Museum of Natural History.
• The Theater Chamber Players present selections from 18th- and 20th-century French music—April 5, 8:30 P.M., Baird Auditorium.
• Two jazz singers, Helen Humes and Betty Carter, perform in the Jazz Heritage Series—April 11, free workshop 4:30 P.M.; concert 8 P.M., Baird Auditorium.
• The Early Music Consort of London presents a program ranging from the music of American Indians to the ragtime of Scott Joplin—April 14, 8:30 P.M., Hall of Musical Instruments, Museum of History and Technology.

For information regarding discounts for Resident Associates, senior citizens and students, call (202) 381-5395.

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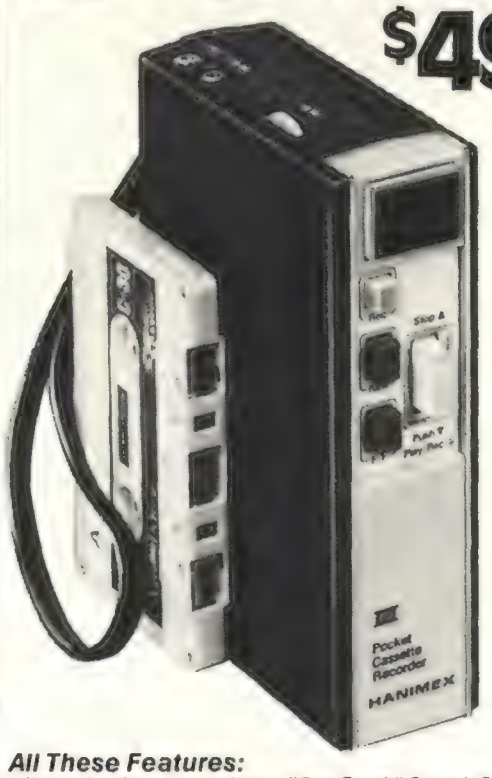

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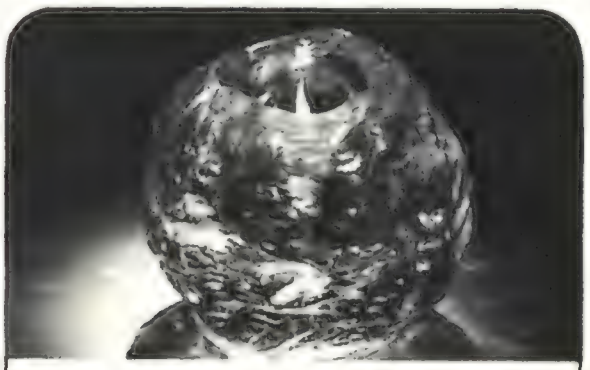

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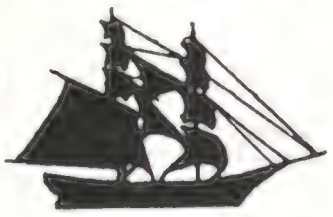

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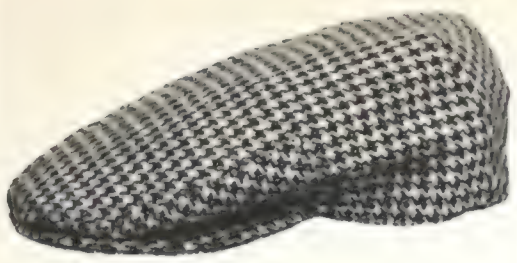
Great Britain—September 16-30: The National Gallery, Tate, Victoria and Albert; walking tours of literary London and excursions in the countryside; the best of London theater • **Mexico City and Yucatan**—November 6-17: A study program in Mexico City concentrating on Aztec and Toltec cultures; visits to the Mayan ruins of Chichén-Itzá, Uxmal and Palenque • **Eastern Europe***—September 23-October 7: Hungary and Czechoslovakia; "lifeseeing" tours and museum seminars in Budapest, excursions to Lake Balaton and Eger before traveling on the Danube by hydrofoil to Bratislava; visits to Bohemian towns of Telc and Kutna Hara; five-day study and cultural program in Prague • Low cost of tours includes first-class hotels, most meals, sightseeing, lectures, theater tickets and round-trip air fare from Washington, D.C. (Mexico and Yucatán trip originates in Mexico City). Foreign Charter tours are heavily subscribed, so write early for reservations and additional details concerning a specific trip to Smithsonian Associates Travel Program, A & I 1270B, Smithsonian Institution, Washington, D.C. 20560 or call (202) 381-5635 for information.
*Optional pre-departure courses will be offered.



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Archives of American Art, San Francisco

In conjunction with the exhibition of American art from the Rockefeller collection (see p. 36), the Archives of American Art has assembled a complementary exhibition. Letters and documents pertaining to artists represented in the Rockefeller collection are concurrently on view at the M. H. de Young Memorial Museum of the Fine Arts Museums of San Francisco—opens April 17.

Summer Museum Hours

The Museum of History and Technology, Museum of Natural History, Smithsonian Institution Building, Hirshhorn Museum and Sculpture Garden and the Freer Gallery—all on the Mall—are open daily from 10 A.M. to 9 P.M. The same hours will apply to the Arts and Industries Building, reopening in May, and the new Air and Space Museum, opening in July. The National Collection of Fine Arts, National Portrait Gallery and the Renwick Gallery are open daily from 10 A.M. to 5:30 P.M. Beginning April 1, the National Zoo is open from 9 A.M. to 6:30 P.M. The Anacostia Neighborhood Museum is open weekdays 10 A.M. to 6 P.M. and weekends from 1 P.M. to 6 P.M.

Bicentennial Information

The Smithsonian Associates Museum Reference Service is available to Associates planning Bicentennial travel. Members may request a packet of lists of many of the museums, galleries and historical sites in the 13 original states. Please allow at least three weeks for mailing. Write: Museum Reference Service, Associates Reception Center, Smithsonian Institution Building, Washington, D.C. 20560.

Parking for Visitors

A garage under the new Air and Space Museum is now open to the public. (Exhibition areas will open July 4.) The entrance is on 7th Street, between Independence Avenue and Jefferson Drive. Hours are 9:30 A.M. to 10 P.M. daily.

Smithsonian Commons

The Commons is now open on weekends for Associates and their families, offering a buffet luncheon for $3.25, with a reduced rate for children. Beverages and desserts are optional. Hours are 11:15 A.M. to 2:15 P.M. seven days a week. An Associates' card is required.

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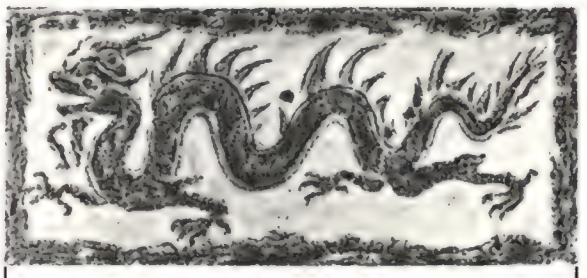

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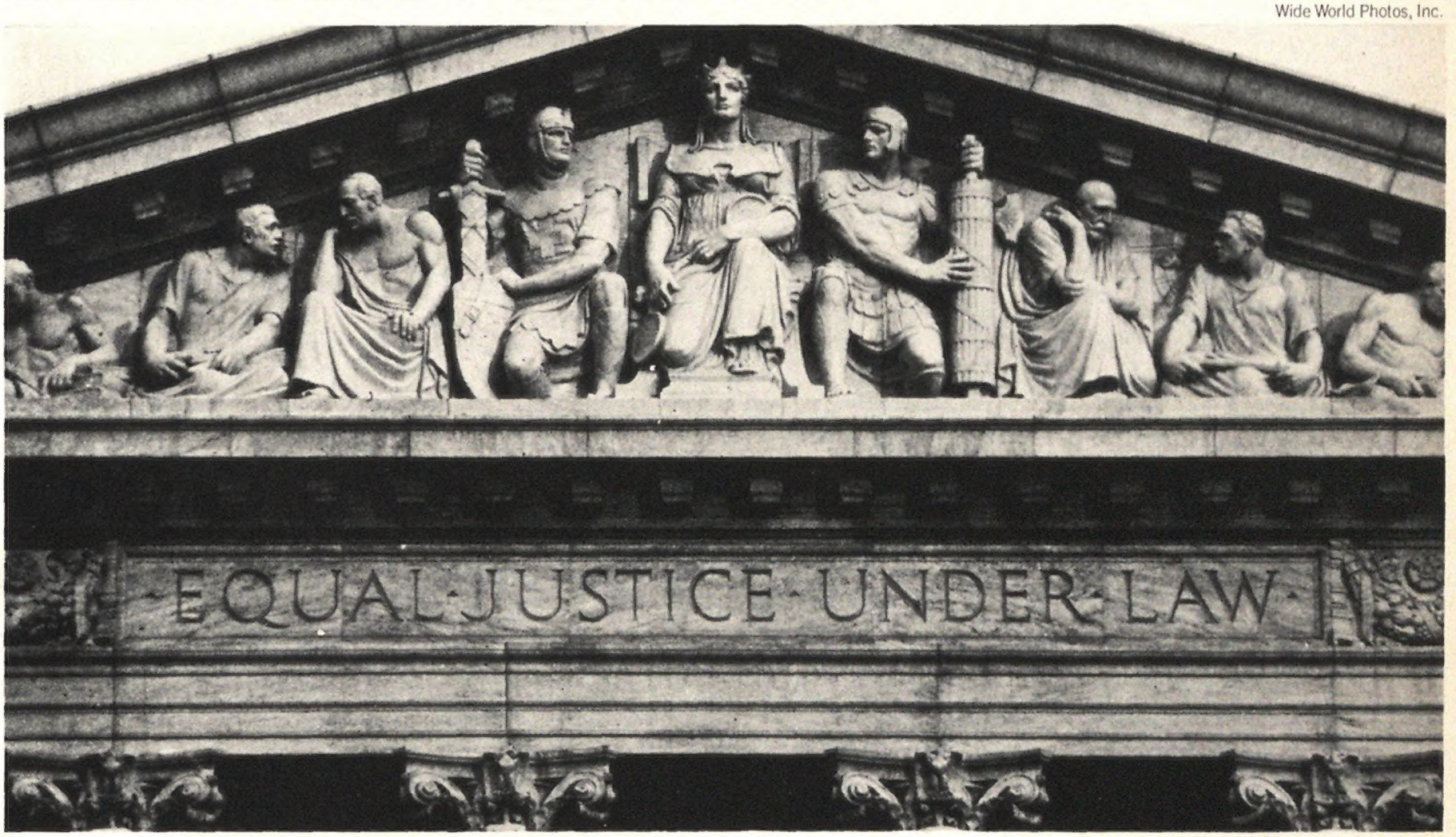

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TIME

The Weekly Newsmagazine

By H. Allen Smith*

Nobel nemesis of fire ants: a new anteater

Each year when Nobel Prizes in the sciences are announced, I descend into a quiet desperation and sit there grinding my teeth. Names like those of the winners and their achievements become a senseless jumble in my head, *exempli gratia*: Lars Tiselius Zsigmondy, for his analysis of the Kamerlingh-Onnes effect on cornmeal mush; Ilya Szent-Gyorgyl Tamm, for discovering the uses of maser-laser oscillators in determining the low profile of sex hormones; and Sir Cyril Cockroft Soddy, for amending Richardson's Law of Thermoniacs by using the additive, factory-made glycogen.

In my travail I address myself to the Royal Swedish Academy of Sciences in Stockholm, the people who make Nobel nominations. I ask: What about the great hemidemisemi-scientists, such as Dr. Desmond Slattery?

Slattery came up from Belize the other day and I found him relaxing in a friend's Manhattan apartment. Desmond is the founder of the Jungle Academy of Natural Science with headquarters near the mahogany and campeachy wood forests of Belize. There he cultivates the Royal Mayan stingless bee and experiments with native herbal remedies. He is a handsome, dashing fellow, once a merchant seaman, a wartime ferry pilot, a movie actor and a crony of Errol Flynn.

Slattery spoke of a recent expedition into the Cockscomb Mountains to gather bark from the sagpaw tree, which heals and tightens up the gums, and of his discovery that scrapings from the tail of the hawkbill turtle constitute a powerful aphrodisiac for both men and women. Fascinating topics, but I wanted to know about his further plans for ridding the South of fire ants. These ferocious insects are laying waste the land in nine Southern states and they are moving steadily northward. The Department of Agriculture, after 18 years of fighting the antsy scourge, has suspended its control operations. Not Desmond Slattery.

He was ready to go against the ants as early as 1948, but no one would listen to him. His project is simple. He wants to bring in shiploads of anteaters from Argentina and parachute them over the vast areas where the fire ants are stinging everything in their path. These giant anteaters have long tapering snouts, long sticky tongues and a cryptic family name, *Myrmecophagidae*.

Slattery has now devised a trap he calls the Grapple-Snatch for capturing anteaters. Having determined that an anteater's range of vision is less than 12 feet, he has fastened the Grapple-Snatch to the end of a 14-foot pole. There is a nose cone that will fit over and grasp the animal's snout; Slattery loads this cone with fire ants to entice the anteater, grapples him, and then snatches him.

In 1948, when he proposed his crusade to Kissin' Jim Folsom, then governor of Alabama, his letter was ignored. Now he says: "Kissin' Jim thought I was scheming to promote a book and a song, both titled *Anteaters Fell on Alabama*. A Confederate canard, if I ever heard one. I stand ready today to raise a peasant army of hunters, each man carrying a Grapple-Snatch, and I'll parachute my anteaters onto all of Dixie. Good-bye bugs. It will be my contribution to the Bicentennial."

He told me that the fire ants live in mounds three or four feet high. The mounds are as hard as concrete and resemble the pillboxes the Germans distributed along the Siegfried Line. A strong man would have trouble breaking up these mounds with a sledgehammer.

"An anteater," said Slattery, "has more powerful forearms than a Gabon River gorilla, and he has long sharp claws. He can shatter and pulverize one of those mounds with a single swing."

How many fire ants could one anteater consume at a time?

"South American actuaries," he said, "have estimated that a single anteater will eat 30,000 ants in one day."

I suggested that an animal with those claws and that belting power might turn out to be dangerous to man.

"Not at all. He doesn't like the taste of man and, anyway, he has no teeth to chew him with."

If I may be permitted an aside, it is a distinct pleasure to deal with a mature and rational mind. Men of Slattery's caliber deserve international recognition. They are pragmatic yet imaginative, they have tight gums, and they can talk a blue streak. I urge that the Swedish Academy take cognizance of their unsung labors. In 1968 a new prize category was added—economics. Let us have still another division—the Nobel Prize for Mighty-Near Metaphysics. First citation: to Slattery, for his work in setting the family *Myrmecophagidae* against *Solenopsis invicta*.

*The author, whose work often appeared on this page, died as this issue went to press. *Low Man on a Totem Pole* (1941) started Smith, a New York newsman, on his long career as a best-selling humorist.

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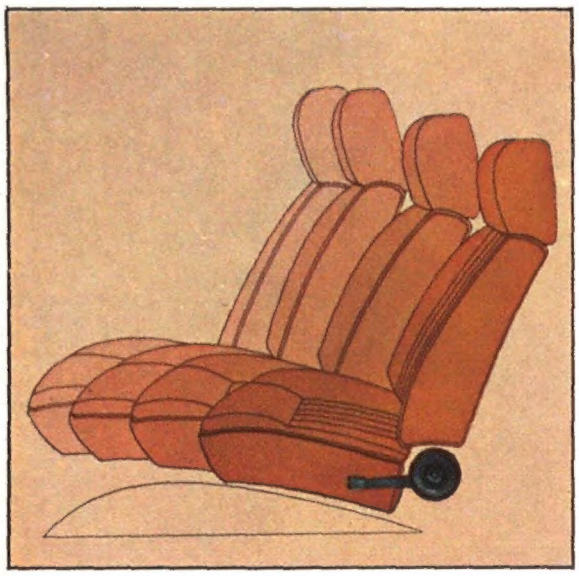

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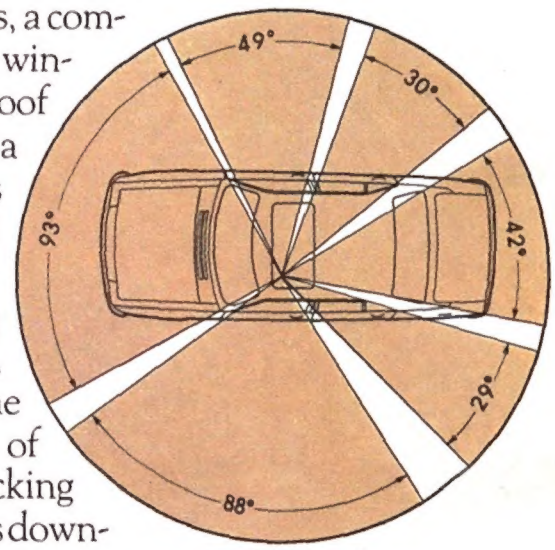

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